

JAN 30 1928

MOTOR AGE

A Chilton Class Journal Publication
Published Weekly January 26, 1928

BY THOSE WHO KNOW, IT IS CALLED THE ENGINEER'S CAR, THIS SPLENDID STUTZ. BUT IT IS EQUALLY THE DEALER'S CAR. FOR THE SAME ORGANIZATION WHICH IS RESPONSIBLE FOR ITS RACE-TESTED SUPREMACY, ITS STYLE-SETTING DESIGN, ITS INDIVIDUALIZED COLOR SCHEMES, IS ALSO RESPONSIBLE FOR THE BREADTH AND SOUNDNESS OF ITS DEALER POLICIES.

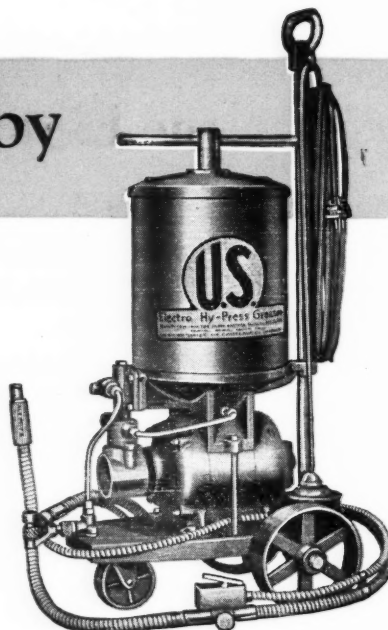
THE SPLENDID STUTZ



Licensed by

Alemite

No Handles to Turn
No Levers to Push



Just Touch the
Electric Control
Button

The U.S. Electro-Hy-Press Greaser

A FEW months ago the new U. S. Electro Hy-Press Greaser was just an idea. Then it was developed and perfected by engineers of The United States Air Compressor Company—now it is increasing profits in filling stations, garages, and service stations everywhere.

It is rightfully called a "Magic Greaser", since it combines all the essential elements of high pressure grease lubrication in one compact unit. The U. S. Electro Hy-Press Greaser is completely self-contained and operates on 110 volt a. c. lighting circuit or may be supplied with 110 volt d. c. motor.

One Integral Unit

A heavy gauge tank, containing 15 lbs. of grease, is mounted on the motor. The air compressor and grease booster pump are cast in one unit, and operate simultaneously from a ball-bearing cam on the motor shaft. The air compressor automatically supplies 60 lb. pressure on top of the grease, forcing it into the booster pump, and this creates 3500 to 5000 lbs. pressure to the Alemite, Zerk or other fitting.

If a frozen bearing is encountered, the booster pump by-passes the grease back to the tank in place of producing unlimited pressure in the hose. Many operators have told us that this one feature alone will save them 25c per car greased on hose. Send for bulletin describing the new U. S. Greaser in detail.

The United States Air Compressor Company

Manufacturers of Super-Service Air Compressors, Car Washing Systems and Paint Spray Equipment

5304 Harvard Avenue, Cleveland, Ohio, U. S. A.

Export Dept: 30 Water Street, New York City

Cable Address: "WIDBLOCO," all codes

Please Check

AIR COMPRESSORS ☐
PAINT SPRAY ☐
CAR WASH EQUIPMENT ☐



Print Name

NAME _____
ADDRESS _____
CITY _____

New York!.....

a veritable landslide to the Eight-in-line. And again Gardner is way out in front with three complete series of Eights-in-line in fifteen distinctive body styles, ranging in price from \$1195 to \$2495...with closed cars at \$1295! ~ ~ Far more Gardner Eights-in-line were built and sold in 1927 than in any previous year; more new dealers are climbing on the Gardner bandwagon than ever before; more people are stopping to look at and listen in on Gardner. Simply because Gardner is an Eight-in-line, a distinctively different car in appearance, performance and results. Gardner is getting ahead, is a real company, progressive, one of the most strongly financed in the industry. Gardner has a real program for 1928, backed by the most ambitious advertising campaign in our history. And Gardner has a real dealer proposition. ~ ~ Look us up at Chicago. ~ ~ Headquarters: Blackstone Hotel. THE GARDNER MOTOR CO., Inc. ~ ~ SAINT LOUIS, U.S.A.

GARDNER
Eight-in-Line

Confidence and Respect

Above and beyond all other considerations is the fact that the combined trade circulations of *Automobile Trade Journal* and *Motor Age*, approximately 75,000 paid, reach and cover in excess of 85% of the automotive dealer purchasing power in the United States.*

These two well-edited publications are not only subscribed for and paid for, but command the confidence and respect of the consequential components of our vast net work of automotive dealers from the Atlantic to the Pacific, and from Canada to Mexico.

Therefore if you want new retail outlets, and if you wish to keep present retailers favorably impressed concerning the profits advantage of your product, an adequate use of *Automobile Trade Journal* and *Motor Age* will prove most effective—and pleasingly low in cost.

Chilton Class Journal Company

PHILADELPHIA

Publishers of Automotive Business Papers

AUTOMOTIVE INDUSTRIES
AUTOMOBILE TRADE JOURNAL
MOTOR AGE
AUTOMOTIVE INDUSTRIAL RED BOOK

MOTOR WORLD WHOLESALE
CHILTON CATALOG & DIRECTORY
COMMERCIAL CAR JOURNAL
OPERATION & MAINTENANCE

*This fact is proved. A copy of the proof will be sent if you request it.

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A Sales Point of Real Merit! CRANKSHAFT

by

WYMAN-GORDON
The Crankshaft Makers
Worcester, Mass.
Harvey, Ill.



An Appreciation *from the* three Graham brothers

To the public and automobile trade who so generously responded with their attendance and orders at the first showings of passenger cars bearing our name, we express our deep gratitude.

*Joseph D. Graham
Robert C. Graham
Ray A. Graham*



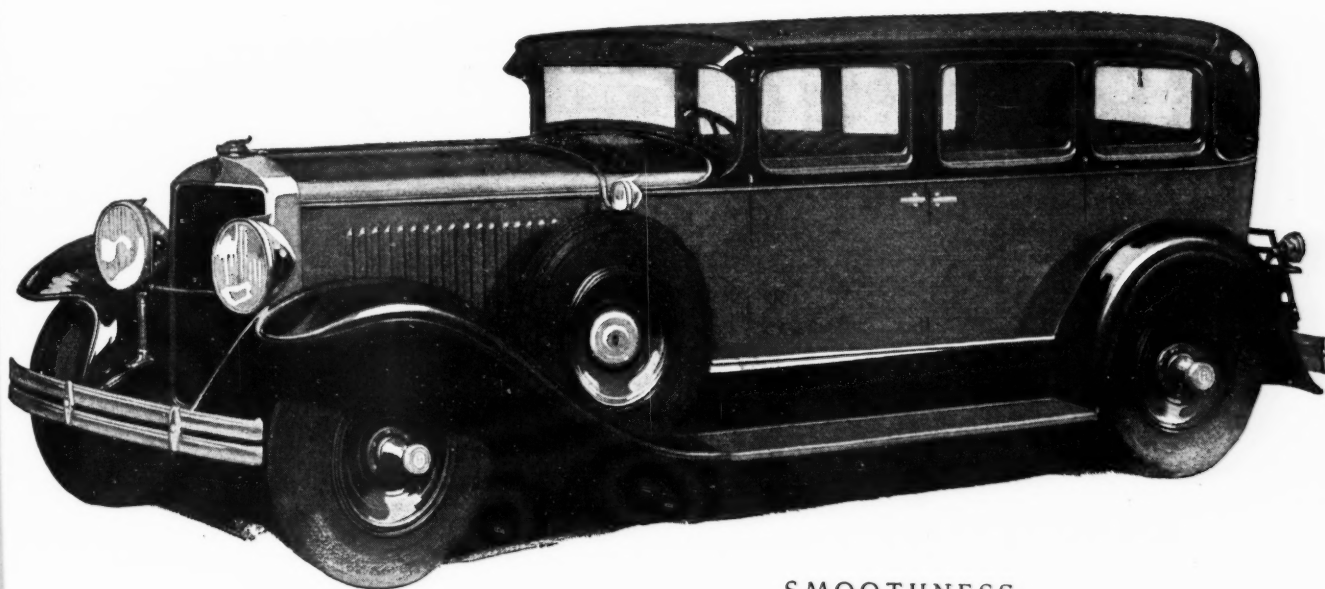
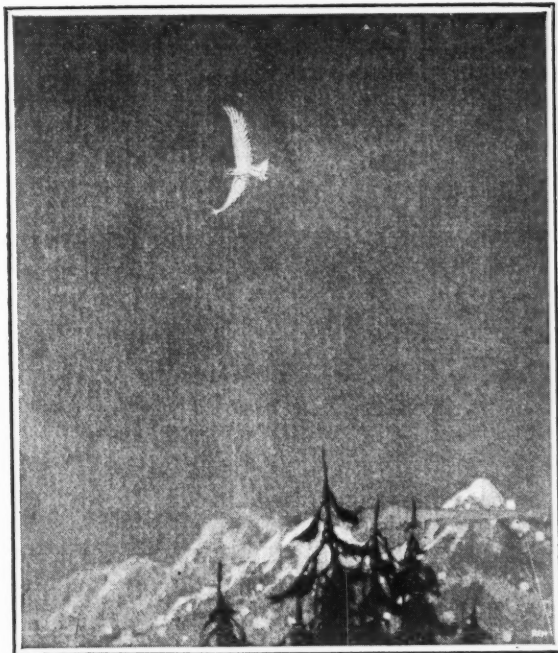
"My studio has designed this symbol of the integrity and unity of purpose back of the Graham-Paige."

Corrado Vivanti

SPACE 40 IN COLISEUM AT CHICAGO

January 28 to February 4, 1928

Also in lobby of Blackstone Hotel



SMOOTHNESS

To respond to each call for power and endurance with effortless ease that causes the difficult to seem easy—that is the quality of smoothness in motor car performance that makes driving a pleasure and riding a privilege

GRAHAM-PAIGE



Nash Established as the *STYLE CENTER* of the Shows

Additional proof of the trend toward Nash is being supplied by the crowds thronging the Nash exhibit at the Motor Shows.

Never has the Nash display been more enthusiastically received.

Undeniably Nash is establishing its group of cars as the *STYLE CENTER* of the Shows.

Now is the time to change to Nash—to get a line that will show you profit—a line that enables you to work three big markets with one contract—Standard Six, \$865 to \$1085; Special Six, \$1135 to \$1445; Advanced Six \$1340 to \$1990; f. o. b. the factories.

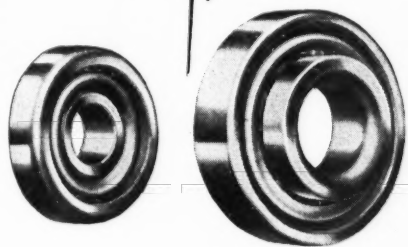
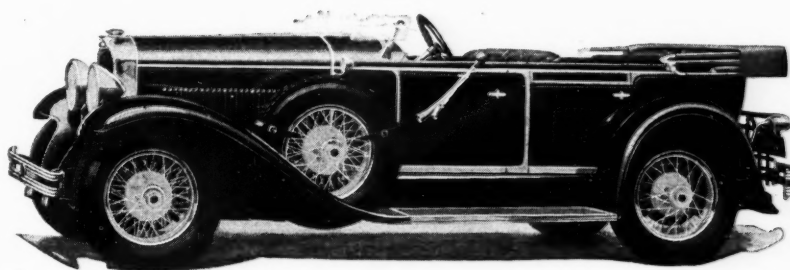
Of particular interest to good dealers is the fact that with a big expansion program under way Nash is now able to award further valuable territory.

Wire or write the *Sales Department*, The Nash Motors Company, Kenosha, Wisconsin, for complete information.

NASH

Leads the World in Motor Car Value

The new
MARMON
78



New Departure Front Wheel Ball Bearings in the Marmon 78 eliminate forever front wheel wobble or bearing adjustment.

Marmon also employs New Departure quality bearings throughout the chassis.

MARMON STEPS AHEAD

TO match its flashing performance Marmon 78 uses New Departure Front Wheel Ball Bearings. It is the *seventh* successive car to adopt this high quality bearing of which *twenty-three million* have been installed in seven years, with phenomenal success.

For Marmon to use bearings of such impressive superiority means that the maker has considered quality ahead of price and realized that it is actually an economy—in service-satisfaction to the car owner and reputation-insurance to the car maker.

All types of New Departure Ball Bearings show value superior to all others which do not employ the special high carbon alloy steels and precision craftsmanship so necessary to quality bearing performance.

THE NEW DEPARTURE MANUFACTURING COMPANY
BRISTOL, CONNECTICUT

Detroit

San Francisco

Chicago

New Departure
Quality
Ball Bearings



Chrysler Assures More Money for YOU in 1928!

The Chrysler sales franchise has proved during the past year that it is the most profitable in the industry.

There are five outstanding factors in making a motor car business profitable:

1. A Product of superior quality.
2. A Range of Products that covers the market.
3. Public esteem for the cars you sell.
4. Owner satisfaction.
5. Liberality of franchise and factory policy.

Check Chrysler against each of these items of success.

1. Chrysler performance proves Chrysler quality. Chrysler Standardized Quality assures the greatest values in the industry.
2. There are four great Chrysler cars — "52," "62," "72" and Imperial "80"—covering four great markets. Sensational New Low Prices range from \$670 to \$6795.
3. Chrysler cars are leaders in popularity. In 42 months, public enthusiasm has lifted Chrysler from 27th to 3rd place in the industry.
4. Chrysler cars carry no service griefs. Chrysler owners are enthusiastic over the performance of their cars.
5. You will find the 1927-28 Chrysler franchise—with the special "52" Sales Agreement—the most liberal in the industry; and any Chrysler dealer will tell you about Chrysler square dealing.

Communicate with us for the detailed facts about the greatest profit possibilities in your territory.

CHRYSLER SALES CORPORATION, DETROIT, MICHIGAN
CHRYSLER CORPORATION OF CANADA, LTD., WINDSOR, ONTARIO

CHRYSLER

MOTOR AGE

VOLUME LIII

Philadelphia, Pa., January 26, 1928

NUMBER 4

Local Car Shows Set New Records

Unusual Interest Keynote of
All Exhibits With Sales
at New High

SEE GOOD TRADE

PHILADELPHIA, Jan. 21—Record breaking crowds and the interest that characterized the New York automobile show continue to be the rule with all of the shows held in various parts of the country. Without exception all high marks for attendance have gone by the board in every show that has been held since the beginning of the year. Philadelphia reports that the show exceeded all expectations, Cincinnati had the greatest crowds in its history, the new Music Hall in which the show was held contributing to increased interest and in Detroit, as this is being written, spectators are massed in such numbers as to make it well-nigh impossible to view the cars displayed. Smaller cities report exceptionally keen interest, notably Buffalo, N. Y., where the doors had to be closed five times in one evening, in order to handle the crowd.

In all of these shows where accessories, shop equipment and supplies were shown, great interest in these items was evidenced and record sales were the order of the day.

Shows reported to MOTOR AGE during the past three weeks include the following:

Buffalo, Jan. 14-21

Initial gate of 32,000, far in excess of any previous year. Gates had to be closed five times during the evening
(Turn to page 16, please)

Kratz Succeeds King

AKRON, Jan. 26—G. D. Kratz, former vice-president of the Falls Rubber Co., has succeeded J. O. King as president. Other new officers are W. P. Cline, vice-president and treasurer, and F. H. Comey, vice-president and secretary. Net earnings of the company amounted to \$2.60 a share on the common stocks after preferred dividends. Sales gained 40 per cent over 1926.

17-Year-Old Horse Beats Ancient Car

HANDICAPPED by 13 years, an automobile took the dust of its ancient rival, the horse, in an unique contest recently staged at the new University Stadium, Seattle, Wash. The car was an 1898 Oldsmobile, a veteran of many a road dash. The horse was Lady Violet, a mature 17 but still frisky, with thoughts of her record of a mile in 2:07 she had clipped off while in her prime.

The drivers were representative of their steeds. Lady Violet was guided by G. W. Loveberry, who has one of the few livery stables in existence. A. R. Tyson, president of the Oldsmobile Motor Company of Seattle, was at the tiller of the Oldsmobile.

During the race Lady Violet broke into a gallop several times but her wind held better than did the "one lung" of the ancient Oldsmobile. Tyson claimed that the unusual sight of a horse caused his engine to balk.

Hudson Output is Now 1460 a Day

DETROIT, Jan. 25—Hudson-Essex has stepped up production to 1460 units a day, with many departments working on double shifts. Plans are under way to increase this rate as the season advances, and the company has decided to rush construction of a two-story factory 640 x 80 ft. as a means of increasing facilities.

Fisher Gives Million to Little Sisters of the Poor

DETROIT, Jan. 24—Fred J. Fisher, vice-president of General Motors Corp., has given \$1,000,000 to the Little Sisters of the Poor for a new home in Detroit.

Smoot Predicts Late Tax Relief

Believes Bill Will be Side-
Tracked Until After
March 15

ASK FULL REPEAL

WASHINGTON, Jan. 26—A prediction that the \$290,000,000 tax relief bill would be side-tracked until after March 15, was made last week by Senator Reed Smoot, chairman of the senate finance committee. The bill, as passed by the house, provides for complete repeal of the 3 per cent excise tax on passenger automobiles.

The senate's action in postponing the passage of the measure is regarded in some quarters as being in the nature of a retaliation against the house's action in over-riding the president's and treasury's tax program, which would have retained the 3 per cent tax on passenger cars. Senator Smoot declared that as chairman of the finance committee, he would not call a meeting of his committee to consider the tax measure "for some time," and declared that when it met, it would take up the alien property bill first.

This would mean that the committee would not even consider the tax bill in time to permit a reduction to taxpayers by March 15. If Democrats oppose this move, Senator Smoot said, he had enough votes to force the delay of the tax measure.

Administration leaders have declared that after March 15, it would be possible to show by figures, the condition of the treasury's finances and determine just how far tax reduction should go.

Hertz Heads Yellow Cab

CHICAGO, Jan. 21—John Hertz announced yesterday that he had again taken the presidency of the Yellow Cab Co., made vacant by the death of Charles W. Gray. He has resigned as chairman of the board of the Yellow Truck and Coach Manufacturing Co. and it is understood that he will be succeeded by John A. Ritchie, now vice-chairman of the board.

Studebaker Engine Power is Raised

Dictator 65 hp.; Commander 85 With Unchanged Bore and Stroke

SOUTH BEND, Jan. 20—Studebaker Corp. of America has made changes in the design of engines for its Commander and Dictator models, the new Commander engine being raised from 75 to 85 hp. at 2800 r.p.m. and the Dictator engine from approximately 45 to 65 hp. In both engines the bore and stroke remain the same, minor changes being made to raise the horsepower.

Valves in the Commander are 1½ in. in diameter and are chrome nickel steel for intake, and silchrome or chromel for exhaust. Pistons are light weight cast iron with four rings. The crankshaft is supported in four bronze-backed main bearings. The roadster model has Bohnalite aluminum alloy pistons with invar strut.

Chassis changes include a frame with a new front end construction to increase rigidity and steady the radiator. New axle design permits use of wood, wire or disk wheels. Steering has been changed to cam and lever, with 15 to 1 reduction.

In the Dictator engine, the valve mechanism is now of vertical type with mushroom type tappets operated directly from a newly designed camshaft. Suspension is four-point and cast iron pistons with five rings are used. Valves are 1½ in. diameter, of chrome nickel for intake, and silchrome steel with 1½ in. for exhaust. Lubrication is by full pressure feed to main connecting rod and camshaft bearings.

As in the Commander, there are new axles front and rear to take the new four-wheel brakes and the rear axle has been strengthened to meet the additional power.

Radiators in both models have been redesigned with a somewhat narrower frontal appearance. Chromium plating has been adopted for all exterior bright-plated parts.

Record Sales for P. A.

NEW YORK, Jan. 21—Myron E. Forbes, president of the Pierce-Arrow Motor Company, announced that the formal introduction of the new Pierce-Arrow series 81 has been followed by record early January sales in New York City. Metropolitan sales during the first 14 days were 33 per cent ahead of last year, and 90 per cent ahead of the three-year average.

Great Heroes of Industry and Trade



This picture, strangely enough, is an actual photograph of Kaptain Kettle of the Kansas Koppers, just as it is also a photograph of his monument that stands on the public square at Rattlesnake Crossing.

For an explanation we must go back to that awful night in 1904, when, with the thermometer down to zero, he stuck to his post as traffic policeman on a disused wood-road leading out past the village dump. When found he was frozen in the position shown, busily stopping traffic that never came.

Grateful citizens, seeing that it would cost nothing to do him honor, carried him to the Court House Square and set him on the pedestal of the old watering trough where he stands today a "symbol," as the tablet nailed to his back so aptly says, "of Faith, Hope and Charity—and the greatest of these is Love."

Incidentally, the captain is said to be the only man in America who is his own monument.

Buick Opens New Detroit Building

Structure Called Equal of Any Service Plant in Country

FLINT, MICH., Jan. 25—The Buick Motor Co. added a new link to its extensive chain of branch house headquarters when, just before Christmas, it opened its new headquarters at Detroit. The structure is located near the city's geographical center, on Cass Ave., one of the main north-and-south traffic arteries. It is one block west of Woodward Ave. and three blocks south of West Grand Boulevard, in the section which is fast becoming known as Detroit's motor row. Buick officials believe the new structure to be the equal of any building erected for service in this country.

Detroit's new Buick branch is of Indiana limestone, face brick and reinforced concrete. It is three stories high, with a frontage of 200 ft. on Amsterdam Ave. and 198 ft on Cass. A private alley, opening into Amsterdam Ave., facilitates movement of cars from the building and insures natural light on three sides. The floor space totals 127,120 sq. ft., and the cost was about \$750,000.

All departments serving the public have been located conveniently accessible, and coordinated with related departments in such a manner as to function most efficiently. Both the wholesale and retail divisions of the parts department open directly upon the street, the former on Amsterdam Ave. and the latter on Cass.

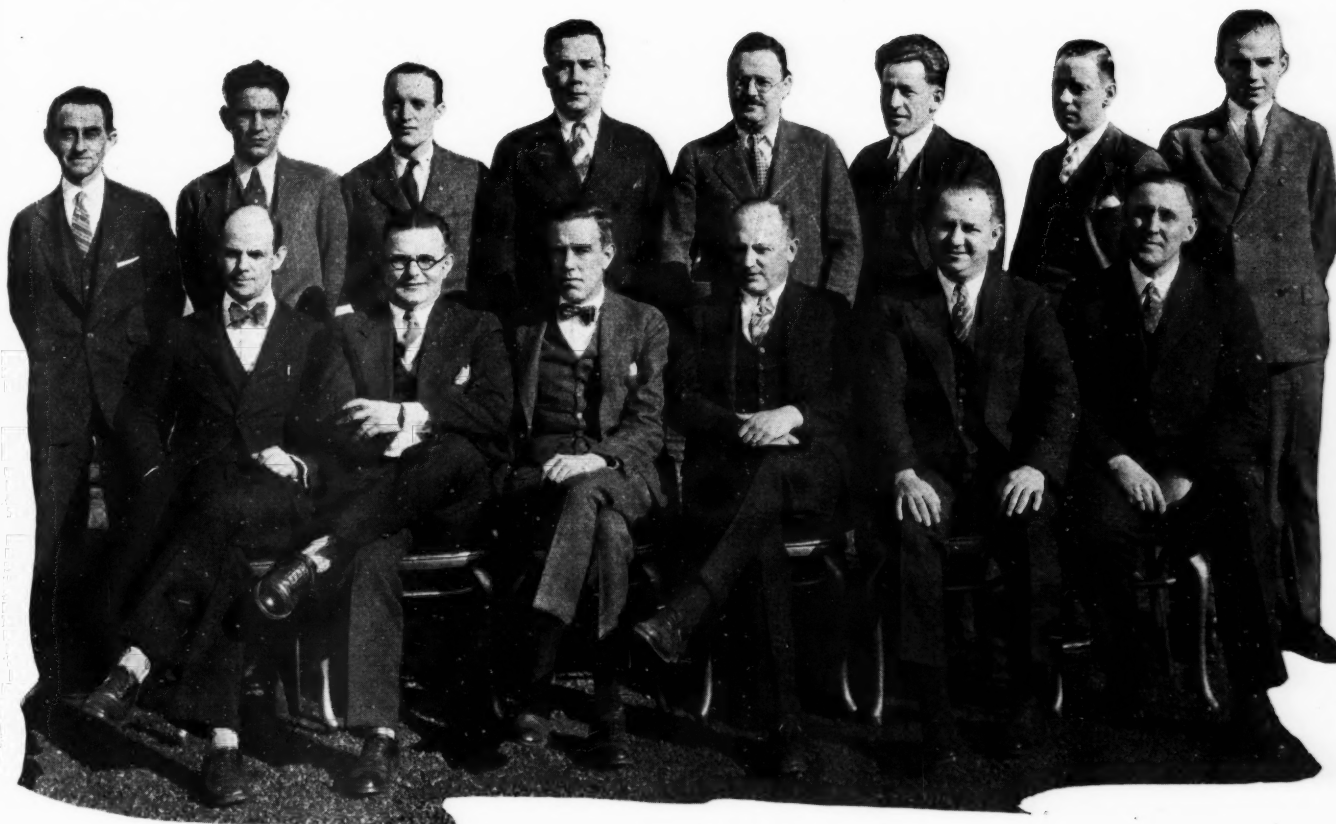
Spans in the building are unusually wide, ranging from 16 to 46 ft. This feature makes for ease in the movement of cars, and, in the retail salesroom, where the 46-ft. span is found, for an unobstructed display probably unparalleled in any multiple-storied building elsewhere.

All aisleway spans throughout the structure are 30 ft., allowing exceptionally easy ingress and egress of cars.

More Leaves Indiana

MARION, IND., Jan. 23—A. S. More, for the past year vice-president of the Indiana Truck Corp., has announced his resignation. His future plans are indefinite, and have not yet been announced.

R. F. Townsend, assistant to the president, has now taken over the supervision of all the branches of the Indiana Truck Corp., directing their sales activities.



Diamond Ring Holds Get-together

AND here's who-all were there: Back row, left to right—Messrs. Jenkins, Dalton, MacFarlane, Caldwell, Magee, Ray, McDonough and Brandt, of sales force. Front row—Tipton, auditor; Miller, vice-president and general manager; Peterson, president; Kistner, vice-president of production; Ruth, former sales manager, and Langheim, shop superintendent

Michigan Banks Add Car Chiefs to Boards

DETROIT, Jan. 26—Many persons prominent in the automotive industry in Michigan have recently been added to bank directorates in their respective cities.

At Flint, B. W. deGuichard, president and general manager of the AC Spark Plug Co., has been elected a director of the Genesee County Savings Bank; Charles E. Wetherald, plant manager of the Chevrolet Motor Co., and E. M. Cumings, president and general manager of Cumings Brothers, prominent automotive parts and accessories jobbers, have been added to the directorate of the Industrial Savings Bank, while Charles A. Cumings, secretary-treasurer of Cumings Brothers, has been elected first vice-president of the Union Trust & Savings Bank.

W. A. Tracy, of Pontiac, vice-president of Oakland Motor Car Co., has been elected a director of the Peoples State Bank, of Pontiac.

Hurd Names Districts Men

DETROIT, Dec. 26—E. P. Hurd, manufacturer of pin tumbler cylinders, pad-

locks and spare tire locking devices, announces the following field representation:

Michigan, Indiana, Ohio, Kentucky and West Virginia, H. F. Griffin, Cincinnati; Eastern territory, Arkay Co., New York City; Southeastern territory, Darling & Nevins, Atlanta; Wisconsin and Illinois, Roy Weldon, Chicago; Southwestern territory, Bert Mosher, Kansas City; Pacific Coast territory, Arthur E. Mohrig, San Francisco.

Schmidt, of Commerce Chamber, Planning Tour

NEW YORK, Jan. 23—Walton Schmidt, field representative for the National Automobile Chamber of Commerce, is planning to start at an early date on another six to eight months' tour of English-speaking countries.

Hooey-ism

A GOOD parts man can keep owners from patronizing outside garages, yet keep all the parts business of these same outside garages.

Detroit Registrations Show 287 New Fords

DETROIT, Jan. 25—According to figures compiled by the Detroit Automobile Dealers Association, 52,593 new passenger cars were titled in Wayne county in 1927, compared with 77,913 in 1926. There were also 5138 commercial vehicles titled compared with 9004 in 1926, and 75 tractors compared with 109. In December 2293 new passenger cars, 357 commercial vehicles and eight tractors were registered. The figures also revealed that 263 new Ford passenger cars and 24 Ford commercial vehicles were registered during the month.

Car Recoveries Show Gain

NEW YORK, Jan. 24—Automobile thefts during 1927 showed no material increase while recoveries showed a marked improvement, according to C. M. Martindale, secretary of the Home Insurance Co. of New York. The improvement in recovery is due, he claims, partly to increased efficiency on the part of the insurance companies and also to the fact that a larger number of thefts are made by joy riders.

NACC Publishes Annual Handbook

Is Twenty-fifth Consecutive Volume; Describes 154 Vehicles

NEW YORK, Jan. 21—The 1928 Handbook of Automobiles published by the National Automobile Chamber of Commerce, is now being distributed.

This year's handbook is the twenty-fifth consecutive one that has been published the first of each year, covering products of manufacturers who are members of the N.A.C.C. It illustrates and gives the principal specifications of 154 vehicles, including 85 passenger automobiles, two taxicabs, nine motor buses and 58 commercial cars and trucks.

The makes in the various classes are as follows:

Gasoline passenger cars—Auburn, Buick, Cadillac, Chandler, Chevrolet, Chrysler, Cunningham, Davis, Dodge Brothers, duPont, Durant, Elcar, Erskine, Essex, Falcon-Knight, Franklin, Gardner, Graham-Paige, Hudson, Hupmobile, Jordan, Kissel, La Salle, Lincoln, Locomobile, McFarlan, Marmion, Moon, Nash, Oakland, Oldsmobile, Packard, Peerless, Pierce-Arrow, Pontiac, Reo, Roamer, S & S, Star, Stearns-Knight, Studebaker, Stutz, Velie, Overland-Whippet and Willys-Knight.

Taxicabs—Checker and Yellow Cab.

Motor buses—Graham Brothers, Mack, Pierce-Arrow, Garford, Studebaker, White and Yellow.

Gasoline commercial vehicles—Acme, American-La France, Atterbury, Autocar, Barrows, Corbitt, Denby, Diamond T, Duplex, Fageol, Federal, Fisher, GMC, Garford, Graham Brothers, International, Kleiber, Larrabee, Maccar, Mack, Moreland, Pierce-Arrow, Relay, Reo, Republic, Sanford, Schacht, Selden, Service, Standard, Sterling, Stewart, Studebaker, Walter and White.

Electrical commercial vehicles—C-T, Walker and Ward.

Individuals may obtain copies by sending 50 cents to the National Automobile Chamber of Commerce, 366 Madison Ave.

Gates Sails for S. A.

NEW YORK, Jan. 21—Charles C. Gates, president of the Gates Rubber Co., sailed from New Orleans on Jan. 14 for a comprehensive business survey

With McAleer



Tom Walton

IT'S hardly necessary to print his name. Everybody knows that Tom was one of the original members of the board of directors of the National Standard Parts Association and served on many important committees. He is now sales manager of the C. H. McAleer Manufacturing Co., of Detroit. For more than six years he was secretary and treasurer of the James Motor Valve Co.

of South America. He was accompanied by Mrs. Gates and expects to be gone several months. Mr. Gates feels that South America offers an increasingly important market.

Horse-Drawn Vehicles Displaced at Vatican

WASHINGTON, Jan. 19—All horse-drawn carriages in use by the Vatican at Rome, which have long been traditional, are to be displaced with the more modern form of transportation—automotive equipment, the automotive division of the Department of Commerce is informed.

Not until two years ago was an automobile ever seen in the gardens and grounds adjacent to the apostolic palace. At that time the Pope was presented with a car by one of the leading makers of Italy. Since that time several cars have been added as gifts, the latest being one from General Motors Corporation.

Oakland Increases Sales Organization

W. R. Tracy, in Charge of Sales, Appoints Six Regional Managers

PONTIAC, MICH., Jan. 23—The Oakland Motor Car Co., which advanced from the position of ninth in point of sales volume during 1926 to fifth place in 1927, has expanded its already extensive sales organization to handle an expected further sales increase during 1928, it is announced by W. R. Tracy, vice-president in charge of sales.

The most important development so far has been the appointment of six regional sales managers in key cities to direct the 22 district offices stationed throughout the United States. The present eastern and western sales managers, W. B. Sawyer and E. M. Lubeck, each has supervision over three of the regional managers.

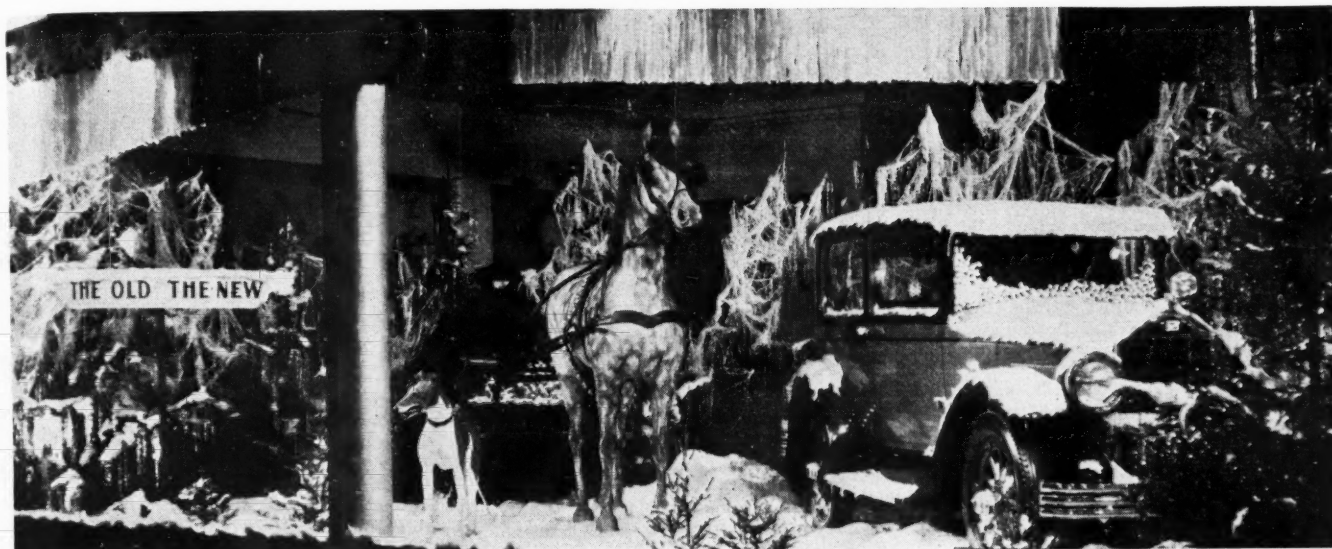
The six new regional managers and their headquarter cities are as follows: New York, F. R. French, formerly special eastern sales representative; San Francisco, L. M. Dreves, former Pacific Coast supervisor; Chicago, Harry Mahaffey; Cleveland, L. J. Marsh; Atlanta, W. A. Sullivan; Kansas City, Edson Smith. The four last named have been promoted from the position of district manager in their respective cities.

These promotions have necessitated the following assignments of district managers: Chicago, R. D. Batchelder, formerly with the General Motors Acceptance Corp.; Cleveland, E. J. Barlow, former district manager at Indianapolis; Atlanta, T. A. Kimmel, former assistant district manager at Buffalo; Kansas City, E. J. Beguhn, former Butte district manager; Indianapolis, E. J. Mann, former assistant district manager at Cleveland; Butte, C. L. Pugh, former field representative in the Seattle district.

Fuel Consumption Gains

NEW YORK, Jan. 24—Gasoline consumption for the 11 months ending November, 1927, was 5,677,329,000 gallons compared with 5,099,928,000 for the corresponding period in 1926, according to a bulletin just issued by American Petroleum Institute. This represents an increase of 11.3 per cent.

Next Week: A Review of the Chicago Automobile Show



The Old and the New

It wouldn't be fair to our many contributors to say that this is the best window display we've printed. But it's certainly excellent and, in our opinion, when better Buick window displays are made, the Fifth Ave. Garage, Gary, Ind., will make their share of them. How about Spring merchandising pictures; the season of the year, we mean, not the thing that holds up the car? Will you look through your back files, see what you can find and send them in? We'll appreciate your early action in this matter

Capt. Sparks Develops "Bugle Call" Warning

JACKSON, MICH., Jan. 24—An automobile horn that blows the regulation bugle call, "attention" is the newest offering to motorists who like the unusual in warning signals. Mounted on any car like an ordinary electric horn, it is sounded by a touch of the horn button. A single touch starts the signal and the succeeding notes follow automatically, without continued pressure.

The Sparton Bugle is the name given to this unusual signal. It was developed by the Sparks-Withington Co., under the direction of Capt. William Sparks.

Employment Increasing

WASHINGTON, Jan. 25—A general increase in employment in the automobile industry during the next 30 days is indicated by telegraphic reports to the United States Employment Service of the Labor Department, covering employment conditions throughout the United States during January.

Reports are similar from practically all automobile manufacturing centers, indicating that there will be an increased production in both passenger car and truck manufacturing plants during the next month. A general surplus of labor during December and the early part of January was reported by the automobile manufacturers, but January production is rapidly taking on these unemployed and the surplus of the unemployed in the automobile in-

dustries is reported as rapidly diminishing.

Manufacturers of tires and tubes, during January, took on additional workers according to reports from Ohio, although a large surplus of labor, including workers in the rubber industry is reported from that state. In Akron, approximately 5000 workers in the rubber industry were added to the rolls following the holidays.

Swedish Association Head Likes American Methods

NEW YORK, Jan. 24—Emil Salmson, vice-president of the Royal Automobile Club of Sweden and president of the Swedish Automobile Dealers' Association, sailed today on the S. S. Hamburg after a six weeks' trip studying business and distributing conditions in this country.

Mr. Salmson was very much impressed with conditions as he found them here and expects to apply some of the ideas acquired to automobile merchandising in Sweden.

He stated that the Royal Automobile Club is seriously considering the recommendation of vehicles using the right-hand side of the road in Sweden.

Hooey-ism

THE perfect mechanic is versatile, and can paint a car, repair a battery or overhaul an engine.

Seat Sale Starts for Indianapolis Meeting

INDIANAPOLIS, IND., Jan. 24—The mail order sale of seats for the Sixteenth Annual International Sweepstakes—the 500-mile race—will open officially at the office of the Indianapolis Speedway Corp., 444 North Capitol Ave., Jan. 13. Mail orders will be filled in the order they are received and in the order they have been received, also, for there is a large accumulation already at the office.

The counter sale of seats will not open until Jan. 16, in order that the office force may get a chance to clear out the mail orders, and will continue straight through to the race.

Prospective purchasers are asked not to send in money for general admission tickets.

In writing for tickets the Speedway Corp. asks purchasers to indicate a first, second and third choice in order to avoid unnecessary correspondence.

Bird-Sykes Buys O'Brien Co.

CHICAGO, Jan. 23—The Bird-Sykes Co., Paige distributor in the Chicago territory, has purchased the business and buildings formerly owned by the Martin J. O'Brien Co. at 4646 Washington Blvd. Sales and service of Paige cars will be continued at that location as a west side branch of the Bird-Sykes Co. J. R. Carnahan, formerly associated with the Martin J. O'Brien Co., will continue as manager.

List of Exhibitors at the Chicago National Automobile Show

Cars

Auburn Automobile Co.
 Buick Motor Co.
 Cadillac Motor Car Co.
 Chandler-Cleveland Motors Corp.
 Chevrolet Motor Co.
 Chrysler Sales Corp.
 James Cunningham Son & Co.
 Dodge Brothers, Inc.
 DuPont Motors, Inc.
 Durant Motors, Inc. (Star)
 Elcar Motor Co.
 Falcon Motors Corp.
 Flint Motor Co.
 H. H. Franklin Mfg. Co.
 Gardner Motor Co., Inc.
 Graham-Paige Motor Car Co.
 Hudson Motor Car Co.
 Hupp Motor Car Corp.
 Jordan Motor Car Co., Inc.
 Kissel Motor Car Co.
 Lincoln Motor Co.
 Locomobile Co. of America
 Marmon Motor Car Co.
 Moon Motor Car Co.
 Nash Motors Co.
 Oakland Motor Car Co.
 Olds Motor Works
 Packard Motor Car Co.
 Peerless Motor Car Corp.
 Pierce-Arrow Motor Car Co.
 Reo Motor Car Co.
 F. B. Stearns Co.
 Studebaker Corp. of America
 Stutz Motor Car Co. of America, Inc.
 Velie Motors Corp.
 Willys-Overland, Inc.

Taxicabs

Yellow Truck & Coach Mfg. Co.

Trucks

American-La France Fire Engine Co., Inc.
 Chevrolet Motor Co.
 James Cunningham Son & Co.
 Dodge Brothers, Inc. (Graham)
 Durant Motors, Inc.
 Federal Motor Truck Co.
 General Motors Truck Co.
 Reo Motor Car Co.
 Roamer Motor Car Co.
 Sayers & Scovill Co.
 Selden Truck Corp.
 Stewart Motor Corp.
 Studebaker Corp. of America
 Stutz Motor Car Co. of America, Inc.

Service

Albertson & Co.
 Automotive Maintenance Machinery Co.
 Bean Spray Pump Co.
 Black & Decker Mfg. Co.
 Breeze Corp., Inc.
 Brunner Mfg. Co.
 Carborundum Co.
 Champion Pneumatic Mchy. Co.
 Curtis Pneumatic Mchy. Co.

DeVilbiss Co.
 Elite Mfg. Co.
 Fleming Machine Co.
 Forest Electric Co.
 Hall Mfg. Co.
 Hardie Mfg. Co.
 Hayes Pump & Planter Co.
 Hinckley Myers Co.
 Ernest Holmes Co.
 Hutto Engineering Co.
 Imperial Brass Mfg. Co.
 Kehawke Mfg. Co.
 Kellogg Mfg. Co.
 Kent-Moore Organization
 Manley Mfg. Co.
 Marquette Mfg. Co.
 National Standard Co.
 Rogers Products Co., Inc.
 Safety Vulcanizer Co.
 Scully Steel & Iron Co.
 Service Station Equipment Co.
 C. A. Shaler Co.
 Simplicity Mfg. Co.
 Snap-on-Wrench Co.
 South Bend Lathe Works
 L. S. Starrett Co.
 Stevens Walden-Worcester, Inc.
 Trindl Corp.
 Van Dorn Electrical Tool Co.
 Walker Mfg. Co.
 Weaver Mfg. Co.
 Joseph Weidenhoff
 Yellow Jack-It Mfg. Co.

Accessories

AC Spark Plug Co.
 American Bosch Magneto Corp.
 American Chain Co., Inc.
 Anderson Co.
 Atlantic Yellowstone Pacific Hiway, Inc.
 Automobile Digest
 Automotive Daily News
 B. B. Sales Co.
 J. B. Baumann
 Bendix Brake Co.
 Biflex Products Co.
 Bigler Mfg. Co.
 Birmingham Machine Fdry. Co.
 Byrne, Kingston & Co.
 C. G. Spring & Bumper Co.
 G. R. Carter Co.
 Central Mfg. Co.
 Chilton Class Journal Co.
 Conn. Automotive Specialties Co.
 Continental Motors Corp.
 Craveroller Co. of America
 Crowner Co.
 Eagle-Ottawa Leather Co.
 Eaton Axle & Spring Co.
 Eclipse Machine Co.
 Fandango Products of N. Y., Inc.
 J. H. Faw Co.
 Federal Pressed Steel Co.
 Fleet Owner List Co.
 Flower City Specialty Co.
 Fry Co., Inc.
 Gabriel Snubber Mfg. Co.
 Gat-Gun Lubricating Corp.
 Gemmer Mfg. Co.
 General Chromium Corp.
 General Electric Co.
 Goulds Pumps, Inc.
 Great Western Mfg. Co.
 L. P. Halladay Co.
 Halstead Specialties Co.
 Hamilton-Wade Co.
 Edward V. Hartford, Inc.
 Hartmann Trunk Co.
 Harvey Spring & Forging Co.
 Hawdos Corp.
 Hayes Body Co.
 Heller Bros. Mfg. Co.
 Hercules Motors Co.
 Homestead Valve Mfg. Co.
 Houde Engineering Corp.
 Illinois Iron & Bolt Co.
 Imperial Brass Mfg. Co.
 Indiana Lamp Co.
 Irving Cloud Publishing Co.
 Irving Engineering Co., Inc.
 Kari-Keen Mfg. Co.
 Kelsey Hayes Wheel Corp.
 Kokomo Electric Co.
 Lepel Ignition Corp.
 Lorraine Corp.
 Lycoming Mfg. Co.
 McQuay-Norris Mfg. Co.
 Mall Tool Co.
 Metal Stamping Co.
 Monroe Auto Equipment Mfg. Co.
 Moto Meter Co., Inc.
 Motor
 Motor Appliance Co.
 Motor Improvements, Inc.
 Motor Service
 National Electric Corp.
 Okonite Co.
 Overhead Door Corp.
 Pines Winterfront Co.
 Radiator Specialty Co.
 Richards-Wilcox Mfg. Co.
 Ross Gear & Tool Co.
 A. Schrader's Son, Inc.
 C. A. Shaler Co.
 Shore Instrument & Mfg. Co.
 Sieg-Warford Co.
 Silver-Brite Battery Mfg. Co.
 Simplex Piston Ring Co. of America, Inc.
 H. W. Sisson & Co.
 Stephenson Protectahood Corp.
 Superior Die Casting Co.
 Super Smart Studios, Inc.
 Seth Thomas Clock Co.
 Tickford Body Co.
 Trico Products Co.
 Tripp-Secord Co.
 United States Air Compressor Co.
 United States Chain & Forging Co.
 Unity Mfg. Co.
 Vacuum Oil Co.
 Veeder Mfg. Co.
 Vlchek Tool Co.
 Wahl Co.
 Warren Tool & Forge Co.
 John Warren Watson Co.
 Waukesha Motor Co.
 Wedler-Shuford Co.
 Wellston Mfg. Co.
 Westinghouse Air Brake Co.
 Westinghouse Electric & Mfg. Co.
 Wm. Wharton, Jr., Co.
 Wheeler-Schebler Carburetor Co.
 Wire Wheel Corp. of America
 Wolverine Bumper & Specialty Co.

Pettit Made Nash General Manager

KENOSHA, WIS., Jan. 25—Announcement is made by the Nash Motors Co. of the appointment of Milton H. Pettit as general manager. Mr. Pettit, Nash vice-president for the past 18 months, has been identified with the industry and with manufacturing in general for many years.

"The advancement of Mr. Pettit in our organization is due to the outstanding ability he has shown since coming with us a year and a half ago," said Mr. Nash, "and it is a pleasure for me to make the announcement of his well-merited promotion."

Before joining the Nash organization, Mr. Pettit for several years was vice-president and general manager of the Simmons Manufacturing Co.

Thornton-Fuller to Hold Transportation Exhibit

PHILADELPHIA, PA., Jan. 24—A large transportation exhibition will be held by the Thornton-Fuller Automobile Co., distributor for Dodge Bros., Inc., Feb. 6 to 18, at the company's maintenance building at Thirty-fourth and South Sts.

Nearly 150 different units will be shown, including a full line of trucks with many different types of special bodies. All of the standard and many special units will be on exhibition.

There will also be a passenger car section.

Cops Speed Traffic

HARTFORD, CONN., Jan. 24—During the rush hours automatic traffic signals along Main street through the shopping district are rendered inactive and real live policemen take their places. It was found that the automatic devices retarded traffic rather than speeded it up. Agitation favors the permanent removal of these devices and putting policemen on duty instead.

A number of truck body builders are cooperating with Thornton-Fuller in this show. There will also be several shop exhibits by shop equipment makers, including Handy Governor Co., Miller Tool Co., and Fenwick Tool Co.

The exhibition is being held in cooperation with Dodge Bros. and Graham Bros.

Duffy Doran Sales Head

SPOKANE, WASH., Jan. 23—John Doran Co., Hudson-Essex distributor, announces the appointment of W. L. Duffy as retail sales manager. Mr. Duffy has been in the automobile business here for 14 years, having been retail sales manager for Riegel Brothers, Dodge distributor, and Eldridge Buick Co., Buick distributor.

Will Employ Only American Citizens

NEW BEDFORD, MASS., Jan. 25—Officials at the Firestone and the Good-year tire fabric plants here have stated that only American citizens, or those who have taken out their first naturalization papers will be given employment in the mills. As a result there has been a big rush on the part of foreigners to become American citizens. It is believed that the Fisk officials will follow suit.

A poll tax bill and naturalization papers, or an application for first citizenship papers, are being required from all applicants seeking positions. Nearly 1000 applications for first papers have been filed and it is expected that the evening schools and Americanization classes will have to extend their facilities.

Towell Opens \$500,000 Branch Agency at Toledo

TOLEDO, Jan. 20—The new three-story home of the Towell Cadillac Co., branch here under management of H. R. Henry, has been opened to the public.

It is located at the southeast corner of Madison Ave. and Eleventh St., in the heart of the motor row district and is one of the most beautiful structures of its kind in the city.

An interesting feature is roof parking space, with capacity for more than 100 cars.



Studebaker Men Call on President

FORTY-SEVEN Studebaker district service managers and assistant service managers, representing every section of the United States are shown herewith in attendance at a three-day conference held at South Bend, recently. Featuring the conference were the sessions held under the direction of Studebaker's engineering staff, when the mechanical features of the new President Straight Eight were exhaustively studied.

Local Car Shows Set New Records

Attendance and Sales Totals
Greatest In History
of Industry

(Continued from page 9)

until the crush could be routed into the building. Trucks, motor boats and shop equipment came in for attention. Sales high.

Newark, Jan. 14-21

A number of complimentary first night tickets helped to swell attendance but literally thousands paid admission to this show. Biggest first night in the 21 years that shows have been held in this city. Interesting feature was an exhibit of a 1901 Olds and a 1902 Cadillac. Record sales.

Milwaukee, Jan. 14-21

Record crowds and unusual interest were features of this show. Paid admissions largest in show history. Sales better than were expected with good promise of future business. Many orders taken for spring delivery.

Louisville, Jan. 16-21

Good weather has kept cars running here all winter and many sales were made at the show, which was the greatest in point of attendance that the association has ever held.

Philadelphia, Jan. 14-21

Previous records of attendance and sales were broken. Most successful show in the association's history. Got under way slowly, but ended with new high mark for business done, both spot and future.

Springfield, Ohio, Jan. 16-21

Record breaking crowds were the order of the week. Greater interest than formerly seen was evidenced and sales reached a new mark with many orders taken for early spring delivery.

Nashville, Tenn., Jan. 16-21

A feature of this week's show was the large number of orders written for small cars. Never before in the history of shows in this city has so much interest been evident. Paid admissions were easily 25 per cent in excess of any previous year.

Detroit, Jan. 21-28

Final returns from this show are not available as this is being written, but there is every indication that all attendance previous records will be broken. Evening crowds are so large as to make it impossible to view the exhibits. Comprehensive exhibits include everything automotive. Sales good.



By Lewis C. Dibble

THE gang's piling into Chicago for the Big Show. We mean the Big Guns of the automobile business. No doubt if the Chicago boys keep up to their reputations they'll stage some bang-up demonstrations for the visiting hordes.

* * * *

LOOKS like General Motors and his army has captured the magnificent new Hotel Stevens. The General is parking 90 odd cars hither and thither in the lobby. They say this clever military strategy was concocted under the hat of Regimental Sergeant Major Ben Koether.

* * * *

IT is reported that Roy Peed is bound to sell Big Bill Thompson a Whippet. And, when you consider the Whippet idea was gotten from England, you can see there is method in Roy's madness.

* * * *

SPEAKING of special big exhibits of cars, Bill Mattimore has asked us to drop into the Congress and have a peek at the Chrysler show in the Balloon Room. Then he wants us to go out to the distributors and see the full line. Naturally, when Chrysler stages anything special you can bet it'll be a feast for the eyes.

* * * *

HERE'S a sales hunch for some enterprising automobile company wanting to stimulate business in Chicago. Besides installing bullet-proof glass give a machine gun with each car so the baby will have something to play with while Dad drives.

* * * *

JOHN CLEARY'S chest is going to swell up a mile when he reads banner headline in a Detroit Sunday paper. It states, "Lansing thrives with MOTOR AGE."

* * * *

SPEAKING of Detroit, the Automobile Show held by the Detroit dealers this week was the greatest success ever. Attracted record crowds.

* * * *

A DETROIT newspaper calls Clarence Triphagen, soles manager of Reo. Which makes us wonder if he is promoting shoe soles made from Wolverine leather.

* * * *

HERE'S a Scotch story that's attributed to Jim Parkhill of Armstrong Spring: Tommy's mother had just bought him new shoes and holding to her hand, he was prancing along Main Street when his mother said, "Tam, dinna ye take such short steps. Remember your new shoes."

Montreal, Can., Jan. 21-28

The show opened here Saturday with a fair attendance that was doubled on the second night and continues to grow. There is a belief that all previous records for attendance will be shattered and some reason to believe that a new high point in sales will be reached.

Cleveland, Jan. 21-28

As predicted by all authorities, this year's show so far this week sets new high marks in point of attendance, with sales satisfactory. Small car sales are particularly good and it appears that new high marks will be set in business done on this type of car before the show closes Saturday evening.

Pittsburgh, Jan. 21-28

The same interest that has characterized the New York show is evidenced here. Crowds are record breaking in numbers and it is remarked by the show management that the better class of buyer is attending the show and making purchases. Many orders for spring delivery are reported.

Cincinnati, Jan. 15-21

A new exhibition hall and the new cars combined to make this show the greatest in the history of automobile exhibitions in this city. Exhibits were favorably compared with those seen at New York and the attendance was far in advance of previous years.

\$300 Daily Take From Parts Sales

Kansas City Car Wrecking Firm Finds Business Profitable

KANSAS CITY, Jan. 23—The United Automobile Wrecking Co., the dealer owned wrecking organization, continues to make gains that have placed it on a sound financial basis along with helping the dealers solve their used car problems.

The company has been able to keep a full force of workmen busy throughout the winter with the sale from parts increasing steadily. Sales now average more than \$300 a day on parts alone. Shipments of junk are being made regularly.

Profits from the business, according to George A. Bond, secretary-treasurer of the Kansas City Motor Car Dealers' Association and also secretary-treasurer of the wrecking company, have been sufficient to pay all operating expenses, restore the cash "borrowed" from the \$50,000 cash capital in establishing the business and to provide a balance that would permit the declaration of a dividend if the directors so desired.

Tom H. Shugrue, manager of the company, says the dealers are beginning to realize more and more the importance of turning used cars other than "wrecks" into the salvage company. "They are beginning to see how they are benefited every time they get a used car 'out of circulation,'" said Mr. Shugrue. "The old wrecks on their hands already were past running. Now they are selling the used cars of the 'next grade up.' The better cars also can be salvaged at a greater advantage as they have more good parts."

Fornaca, President of Fiat Co., Dies in Italy

NEW YORK, Jan. 24—Guido Fornaca, head of the Fiat Automobile Co., died in Turin, Italy, Jan. 15, after an illness of several weeks. Signor Fornaca was in his fifty-eighth year.

Names Committees

DETROIT, Jan. 20—Announcement of the appointment of two important committees in the National Standard Parts Association has been made by E. P. Chalfant, executive vice-president of the association. These are the membership committee, appointed by the board of directors, and the merchandis-

Meetings and Events Scheduled for Week of Chicago Automobile Show	
FRIDAY, JAN. 27	
Chicago Automobile Trade Association, Pre-Show Dinner and Meeting, Congress Hotel	6.30 p. m.
Stutz Motor Car Co. of America, Inc., Salesmen's and Dealers' Meeting, Branch Office	8.00 p. m.
SATURDAY, JAN. 28	
Hupp Motor Car Corp., Luncheon and Meeting every day, Stevens Hotel.	
Studebaker Corp. of America, Luncheon, Hotel Stevens	Noon
MONDAY, JAN. 30	
National Automobile Dealers Ass'n, Directors Meeting, Palmer House	10.00 a. m.
Packard Motor Car Co., Meeting and Luncheon, Packard Distributors and Dealers, Blackstone Hotel	9.00 a. m. to 5.00 p. m.
TUESDAY, JAN. 31	
Automotive Electric Association, Annual Electrical Service Meeting, Stevens Hotel	10.00 a. m. to 5.00 p. m.
National Association of Automobile Show and Association Managers, Luncheon and Annual Meeting, Drake Hotel	1.00 p. m.
National Automobile Dealers Association, Business Session, Palmer House	2.00 p. m.
Oakland Motor Car Co., Meeting, Palmer House	1.00 p. m.
Banquet, Palmer House	6.30 p. m.
Packard Motor Car Co., Meeting and Luncheon, Packard Distributors and	
Dealers, Blackstone Hotel	9.00 a. m. to 5.00 p. m.
WEDNESDAY, FEB. 1	
Auburn Automobile Co., Luncheon, Blackstone Hotel	1.30 p. m.
Automotive Electric Association, Annual Electrical Service Meeting, Stevens Hotel	10.00 a. m. to 5.00 p. m.
H. H. Franklin Mfg. Co., President's Luncheon, Drake Hotel	1.00 p. m.
Gardner Motor Co., Luncheon and Dealer Meeting, Blackstone	1.00 p. m.
Nash Motors Co., Dealers' Meeting and Luncheon, Congress Hotel	Noon
National Automobile Dealers Ass'n, Members Meeting, Palmer House	10.00 a. m.
Members' Meeting, Palmer House	2.00 p. m.
Dinner, Palmer House	6.30 p. m.
Olds Motor Works, Show Dinner, Congress Hotel	7.00 p. m.
Peerless Motor Car Corp., Luncheon, Congress Hotel	Noon
Velle Motors Corp., Luncheon and Meeting, Congress Hotel	1.00 p. m.
Willys-Overland, Inc., Dealer Meeting, Palmer House	1.30 p. m.
Banquet, Palmer House	6.30 p. m.
THURSDAY, FEB. 2	
Graham-Paige Motor Car Co., Luncheon, Blackstone Hotel	Noon
FRIDAY, FEB. 3	
Chevrolet Motor Co., Business Meeting, Erlanger Theatre	1.30 p. m.
Banquet, Palmer House	6.30 p. m.

ing committee, members of which are appointed by President L. T. White.

The membership committee for 1928 will be composed of: Burke Patterson, chairman, Thompson Products, Inc., Cleveland; Burt Close, King Mfg. Corp., Buffalo; W. G. Hancock, McCord Radiator & Mfg. Co., Detroit; V. C. Anderson, Motor & Axle Parts Service, Chicago; R. H. Bachman, Bee Automobile Co., Allentown, Pa., and H. H. Rudnick, H. H. Rudnick Co., Inc., Brooklyn.

The merchandising and standardization committee, as selected by President L. T. White, is made up of: F. J. Glennon, chairman, Aluminum Industries, Inc., Cincinnati; S. F. Dupree, Jr., Almetal Universal Joint Co., Cleveland; J. T. Spicer, Johns-Manville Corp., New York; Jack Buckley, Jack Buckley Motor Supply, Port Huron, Mich.; A. E. Parrish, A. E. Parrish & Co., Nashville, and S. M. Stewart, Moore & Stewart, Gastonia, N. C.

Rubber Restrictions No Longer Needed

NEW YORK, Jan. 23—Many British leaders in the rubber industry are convinced that there is no longer any need for the enforcement of the restriction law, F. R. Henderson, president of the Rubber Exchange, told the New York group of rubber division of the American Chemical Society this week.

"What the British are trying to do now probably is to perfect the workings of the law before they rescind it in order that they may revive it at any time when it is needed," said Mr. Henderson.

Henderson with Toledo Steel

TOLEDO, Jan. 24—John W. Henderson, formerly with the American Hammered Piston Ring Co., is opening up new territory for the Toledo Steel Products Co. in the Southwest.

What's Coming in Motordom

SHOWS

Akron, Ohio, M. O'Neil Bldg.Feb. 4-11
 Allentown, Pa., Manhattan Auditorium,
 Jan. 28-Feb. 4
 Automotive Equipment Ass'n, Colli-
 seum, ChicagoOct. 22-27
 Bethlehem, Pa., ColiseumFeb. 19-25
 Binghamton, N. Y., Exhibit, State
 ArmoryFeb. 15
 *Boston, Mechanics Bldg.March 10-17
 Camden, N. J., Convention Hall,
 Jan. 30-Feb. 4
 *Canton, Ohio, Land O' Dance ..Feb. 12-19
 Casper, Wyo., Arkeon Dancing
 AcademyMarch 5-8
 Charleston, W. Va., Armory.....Feb. 9-11
 *Chattanooga, Tenn., Municipal Audi-
 toriumFeb. 13-18
 *Chicago, National Automobile Cham-
 ber of Commerce, Coliseum,
 Jan. 28-Feb. 4
 *Columbus, AuditoriumFeb. 6-11
 Deadwood, S. D., Auditorium ..Feb. 20-25
 Denver, AuditoriumFeb. 27-March 3
 Des Moines, ColiseumFeb. 20-25
 Elmira, N. Y., State Armory.....Jan. 30-Feb. 4
 Evansville, Ind., Coliseum,
 Feb. 26-March 3
 Fort Worth, TexasMarch 10-17
 Fresno, Calif., Civic Auditorium..Feb. 16-19
 Grand Rapids, Mich.Feb. 6-11
 *Harrisburg, Pa., Emerson Branting-
 ham Bldg.Jan. 28-Feb. 4
 Hartford, Conn., State Armory..Feb. 18-25
 Hornell, N. Y., State Armory..March 5-10
 Indianapolis, Auto Show Bldg.Feb. 13-18
 *Kansas City, Mo., American Royal
 Bldg.Feb. 11-18
 Kingston, N. C.April 9-13
 Lancaster, Pa., Arcade Garage
 Jan. 31-Feb. 4
 Lansing, Mich.Feb. 6-11
 Los AngelesMarch 3-11
 Mankato, Minn., ArmoryFeb. 15-18
 Minneapolis, Municipal Auditorium
 Feb. 4-11
 Muskegon, Mich., ArmoryFeb. 14-18

Omaha, Neb., Municipal Auditorium,
 Feb. 20-25
 Orlando, Fla., ColiseumFeb. 9-11
 Ottawa, Can., New ColiseumFeb. 6-11
 *Paterson, N. J., ArmoryJan. 30-Feb. 4
 Peoria, Ill., ArmoryFeb. 7-11
 Plainfield, N. J., Amusement Academy
 Feb. 18-25
 *Portland, Maine, Exposition Bldg.,
 Jan. 30-Feb. 4
 Portland, Ore.Feb. 4-11
 Providence, R. I., Cranston Street
 ArmoryFeb. 11-18
 Quebec, Can., Drill Hall ..Feb. 25-March 3
 Reading, Pa., Zimmerman-Leahy
 GarageJan. 30-Feb. 4
 Salon, Automobile Salon, Inc., Hotel
 Drake, ChicagoJan. 28-Feb. 4
 Salon, Automobile Salon, Inc., Hotel
 Biltmore, Los AngelesFeb. 11-18
 Salon, Automobile Salon, Inc., Palace
 Hotel, San Francisco..Feb. 25-March 3
 San Antonio, Texas, Goad Motor Co.
 Bldg.Feb. 12-18
 San Bernardino, Cal., National Orange
 Show Bldg.Feb. 16-26
 San Diego, Calif.March 10-15
 *San Francisco, Civic Auditorium
 Jan. 23-Feb. 4
 Schenectady, N. Y., State Armory,
 Feb. 20-25
 Seattle, Wash.Feb. 10-17
 Sheboygan, Wis., Eagles Auditorium,
 Feb. 6-12

Sioux City, Iowa, ArmoryFeb. 22-25
 Sioux Falls, S. Dak., Coliseum..March 23-31
 Spokane, Wash., State Armory..Feb. 15-18
 Springfield, Ill., State Arsenal..March 7-10
 Springfield, Mass., Municipal Audi-
 toriumFeb. 27-March 3
 *St. Louis, City Market Bldg. ..Feb. 6-11
 Syracuse, State ArmoryFeb. 6-11
 *Tampa, Fla., Davis Island Coliseum,
 March 29-April 5
 *Toledo, Civic Center Garage ..Feb. 6-11
 Trenton, N. J., State Armory ..Feb. 18-25
 Vincennes, Ind., ColiseumFeb. 1-4
 *Washington, D. C., Auditorium,
 Jan. 28-Feb. 4
 Wichita, Kan., Municipal Forum,
 Feb. 6-11
 Wilkes-Barre, Pa., Matheson Exposi-
 tion Bldg.Jan. 30-Feb. 4
 Wilmington, Del., duPont-Biltmore
 HotelJan. 30-Feb. 4
 Worcester, Mass., State Armory..Feb. 9-11

*Will have special shop equipment exhibit.

CONVENTIONS

Automotive Equipment Association,
 Grand Hotel, Mackinac Island,
 June 10-16
 Automotive Equipment Ass'n, Coliseum,
 ChicagoOct. 22-27
 Automotive Service Association of New
 York, Annual Banquet, Hotel
 AstorMarch 8
 National Automobile Dealers Ass'n,
 Annual Meeting, Palmer House,
 ChicagoJan. 31-Feb. 2
 Society of Automotive Engineers,
 Chateau Frontenac, Quebec..June 26-29

RACES

Daytona Beach, Fla., series of stock car
 races and world's speed trials,
 Feb. 15-23
 IndianapolisMay 30

Watch For It!

Feb. 18—Statistical Issue—Auto-
 motive Industries.

Asks Cities and Suburbs to Link Traffic Plans

SPRINGFIELD, Jan. 24—"Take the chaos out of traffic management and much of present day congestion will be done away with," said D. C. Fenner, chairman of the motor vehicle conference committee, speaking at the January meeting of the local safety council.

"No large railroad could operate under the divided authority that now exists with respect to traffic in many of our metropolitan communities. No matter how conscientious each official may be, when you have a situation where there are from 20 to 100 governing bodies within a metropolitan area, you cannot get a satisfactory traffic program unless there is some central authority to work it out.

"Our states have learned the necessity for state highway commissions to coordinate all the rural road work, but in most of our modern cities there has been no move to inter-relate the street program of the city proper with that of the suburbs."

Japan Sales Gain Third

WASHINGTON, Jan. 23—Sale of automobiles in Japan during 1927 totaled approximately 16,000 vehicles

or a gain of 33 1/3 per cent over 1926, according to advices received by the U. S. Department of Commerce from its representative in Tokio. He reports that the "automobile business is one of the few healthy industries in that country, sales during the last quarter of 1927 having been considerably better than any other line."

Sales of medium-priced passenger cars are expected to show improvement over the third quarter, while sales of high-priced cars are reported remarkably good.

Parker Awarded \$367,174 in Action Against Ford

DETROIT, Jan. 23—Judge Arthur J. Tuttle in Federal Court has determined \$367,174 plus interest at 5 per cent since Feb. 14, 1927, as the amount Ford Motor Co. owes the Parker Rust Proof Co. for infringement of patent.

Hooey-ism

A GOOD sales manager always
 has an entirely new car ready for
 the boss' wife to make her bridge
 parties in.

Harry Tipper Forecasts Increased Export Sale

NEW YORK, Jan. 25—Expressing optimism over the outlook for foreign automotive business, Harry Tipper, general sales manager of General Motors Export Co., in a speech at the annual New York show dinner of the Overseas Automotive Club, said though the development of motor transport in other countries would never parallel the rapid growth in the United States, its ultimate growth will be as extensive.

Citing recent growth, Mr. Tipper said total gross sales had increased from \$216,449,000 in 1924 to \$410,000,000 in 1927. In number of units there was increase from 49,606 in 1921 to 543,000 in 1927. General Motors Export business increased from about 5 per cent of all cars and trucks exported from the United States in 1921 to about 41.6 per cent last year.

Bus Use Gains in L. A.

LOS ANGELES, Jan. 21—The increased popularity of buses as a means of transportation is reflected in a report recently issued by the Los Angeles Railway Co.

An increase of 35 per cent was reported.

Cooper Forecasts Increased Trade

Tells Convention 1928 Will Be Among Best Years of Industry

CINCINNATI, Jan. 23—Addressing more than a hundred branch managers and salesmen attending a four-day convention here, I. J. Cooper of the Cooper Corp., manufacturer of tires and batteries, forecast a big year in 1928. The first six months of 1928, he predicted, would be among the best in automotive history and declared the entire year, in his opinion, would be an unusually good one.

"All information coming to me indicates we will enjoy a big business throughout next year," said Mr. Cooper. "Much of the information deals with the full year, but everyone seems to feel assured that the first six months will develop a good business generally and particularly in the automobile field."

John F. Schaefer, vice-president and general manager, who is responsible for the development of the new armored tire construction, discussed Cooper products and gave an outline of plans the factory had in mind for the next year. Ralph H. Prinz, sales manager and treasurer, who presided at the conference, explained the expansion program entered into by the Cooper Corp. two years ago that resulted in the opening of new territory in all parts of the country. Mr. Prinz also dwelt at length on the sales and merchandising plan formulated for 1928.

The advertising program for the coming year, declared to be a most ambitious one and the largest in Cooper history, was explained by A. H. Johnson, advertising manager, and H. P. Seale, sales manager of the battery division, told the managers of the method of building batteries in the company's factory at Madisonville.

In addressing the visitors, Mr. Cooper reviewed the history of the corporation and his own association with the tire business, which began with the Morgan & Wright Company in 1895.

Show Cars In Church

WASHINGTON, Jan. 24—Automobile and religion have a close alliance in New Zealand, according to a cable to the United States Department of Commerce from its representative in Wellington. He reports that the New Zealand ninth annual Motor Olympia

American Cars Hold Australian Records

A MAJORITY of present Australian road records are held by American-made cars. The following summary includes those recognized as the most important:

Melbourne to Sydney (576 miles): E. Buckley and L. Bartlett (Hudson), 11 hr. 55½ min.

Brisbane to Sydney (650 miles): N. Smith and T. Poole (Chrysler), 16 hr. 5 min.

Fremantle to Sydney (2894 miles): J. Burton (Studebaker), 5 days 21 hr. 45 min.

Adelaide to Melbourne (580 miles): H. Barnes (Th. Schneider), 12 hr. 10 min.

Fremantle to Adelaide (1802 miles): H. Clutterbuck and J. M. Thompson (Chrysler), 74 hr. 12 min.

Darwin to Adelaide (1961 miles): Dr. Mackay and B. Wood (Essex), 6 days 17 hr. 5 min.

Darwin to Melbourne (3380 miles): Dr. Mackay and B. Wood (Essex), 6 days 3 hr. 58 min.

Sydney to Bourke (513 miles): H. Lapham and C. Cooper (Essex), 12 hr. 15 min.

Sydney to Cowra (206½ miles): P. Donnelly (Whippet), 3 hr. 50½ min.

was held in Christ Church from November 4 to November 12, the edifice being completely filled with automobiles, the majority of which were of American make. Out of a total of 92 passenger cars shown, 61 were made by American manufacturers, 28 by British, and three by Italian manufacturers.

Three Million is Net of Commercial Trust

NEW YORK, Jan. 24—The annual report of Commercial Investment Trust Corp. for 1927 shows volume of bills and accounts purchased as \$188,271,263 compared with the 1926 record total of \$206,113,930. Net profits were \$3,003,392 as against \$3,504,376 in 1926. The company next month will observe its twentieth anniversary.

In his report to stockholders, Henry Ittleson, president, said net profits for the second half of the year exceeded those of the first by \$426,686.

Willys-Overland Shows Truck Line

Offers Four Models Powered by Knight Six-Cylinder Engines

TOLEDO, Jan. 21—Willys-Overland, Inc., has brought out a line of four trucks, all powered with six-cylinder Willys-Knight engines and equipped with pneumatic tires and internal four-wheel brakes. The capacity ratings are 1, 1½, 2 and 2½ tons. All models have unit powerplants, single plate clutches, pump cooling, battery ignition, electric starting and lighting, seven-bearing crankshafts, vacuum feed from tank under the seat, tubular propeller-shafts, Hotchkiss type drive and metal spoke wheels.

Prices follow: One-ton, \$1,095; 1½-ton, 134-in. wheelbase, \$1,545; 152-in. wheelbase, \$1,595; 2-ton, 150-in. wheelbase, \$1,945; 164-in. wheelbase, \$1,995; 2½-ton, 150-in. wheelbase, \$2,545, and 164 in. wheelbase, \$2,595.

The one-ton model has a wheelbase of 130 in. and the chassis weighs 2775 lb. It has a 2 15/16 x 3 7/8-in. engine, three-speed transmission, spiral bevel rear axle with 6 1/7 to 1 reduction and 30 x 5 in. tires. The 1½ ton job is offered in 134 and 151-in. wheelbase lengths weighing 3300 and 3400 lb. respectively for the chassis. Its engine has a bore of 2 15/16 and a stroke of 4 1/4 in. The transmission provides three speeds forward and the tires are 30 x 5 in. front and 32 x 6 in. rear. The spiral bevel rear axle provides a reduction of 5.66 to 1.

Two wheelbase lengths are available on the 2-ton chassis also, the respective lengths and weights being 150 and 164 in. and 3800 and 3900 lbs. The engine is a 3 3/4 x 4 3/4 in. unit and a three-speed transmission is employed. Rear axle is a spiral bevel design with a reduction ratio of 6 5/8 to 1. Tires are 32 x 6 in. front and 34 x 7 in. rear.

A double reduction axle with a 6.33 to 1 reduction is used on the 2½ ton model which has 32 x 6 in. tires with duals on the rear and a four-speed transmission. The engine is of the same size as that employed in the 2-ton chassis. Wheelbases of 150 and 164 in. are available.

Hartz Out of Danger

BOSTON, Jan. 26—Harry Hartz, who has been at the Lawrence General Hospital since his accident at Rockingham Speedway, Oct. 12, has been moved to this city. He is rapidly improving.



We Have With Us Today—

SHOWN herewith are members of the sales force of the Ferris-Simpson Co., of Dallas, as they looked when they visited the AC plant at Flint. The Texans toured Chevrolet plant and also attended the New York Automobile Show before returning home

Tew Heads Sales for Goodrich Co.

AKRON, OHIO, Jan. 23—James D. Tew, first vice-president and director of the B. F. Goodrich Co., has been made general manager in charge of sales in connection with his other duties, following the recent resignation of W. O. Rutherford, who was vice-president in charge of sales since 1918.

Born in Jamestown, N. Y., in 1882, Mr. Tew was graduated from Harvard with a degree in mining engineering. His father, Harvey W. Tew, was a brother-in-law of Dr. B. F. Goodrich, and was with Dr. Goodrich in the original organization in 1870, which was known as Goodrich, Tew & Co. In 1906 he started to work in the tire division of Goodrich at Akron, and was responsible for many improvements in production and tire design.

Mr. Tew's climb in the Goodrich organization was steady. He was made superintendent of the tire division in 1918, and in 1925 was promoted to the position of assistant works manager. One year later he was made works manager. In October, 1927, he was elected first vice-president.

American Lancia Honored

NEW YORK, Jan. 21—Lancia Motors of America was tendered an official reception by the mayor and Industrial League of Poughkeepsie at the Nelson House in that city on Saturday evening, Jan. 14. This reception was in honor of the acquisition by the Italian manufacturing company of the plant in

Poughkeepsie, where cars will be assembled using imported engines and American parts for chassis and body.

John K. Sague, mayor of the city, acted as toastmaster for the occasion and introduced as speakers Dr. Henry N. MacCracken, president of Vassar College, and Mr. Dow, president of the Poughkeepsie Chamber of Commerce. Anthony M. Flocker responded in behalf of the Lancia company, thanking the city government and civic bodies for the cordial attitude which they had shown to the company.

A Tale of a Ten-Car Family

"What cars are needed today, Mrs. Platinum?"

"Mr. Platinum will be going to business at 9."

"The Executive, quiet and dignified, yet possessing the power of the brute if needed, is ready."

"Mr. Platinum will play golf this afternoon."

I shall send around the Four-some, that friendly, lively master of the Open Road."

"Miss Jane will drive this afternoon."

"She will want the Tom-Boy, tuned with the heart of the modern, madcap maid."

"Mr. Henry may wish to go out tonight."

"The Necker is just back from the shop."

Fisher Issues Sales Manual

DETROIT, Jan. 24—An unusually attractive illustration of what a modern sales manual may be made is shown in a booklet which has just come off the press for the Fisher Body Corp.

Combining within its handsome limp leather covers a fine example of typographic art with an abundant supply of the detailed data expected in a work of this kind, the volume is at the same time full of interest and information for the reader.

Step by step, it reveals the method by which Fisher bodies are built, from the original drawing by the designer through successive manufacturing processes.

After the car is pictured full size on a huge blackboard a wooden frame is set up, constructed with painstaking attention to the precise measurements of the blackboard drawing. This framework is filled out with sculptors' clay, which is painted to reveal exactly how the new body will look when completed.

Thereupon the model is examined in turn by expert designers, who scrutinize every detail, suggest changes and modify the original conception.

Exclusive on Westinghouse

CHICAGO, Jan. 21—Gabriel Snubber Co., 2636 Indiana Ave., has been appointed by the Westinghouse Air Brake Co. as exclusive distributor of the Westinghouse Vacuum Automotive Brake for Chicago and 14 counties surrounding.

Advertising Plays Part in Success

Helped to Decrease Cost of Cars, Says Peerless Sales Manager

CLEVELAND, Jan. 24—In the rapid leap of the automotive industry from comparative insignificance to the greatest single business of the world, the part played by advertising is too important to be overlooked. This is part of a statement made by Chas. A. Tucker, who as sales manager of the Peerless Motor Car Corp. and in other important capacities, has been affiliated with the industry from its swaddling clothes days.

"In no other industry has the competition been so keen over a period of years," says Mr. Tucker. "It took a company of great strength and stability to remain in the field. A few years ago at the automobile show, size of space allotted to an individual manufacturer was necessarily small because so many makers had to be provided with room in which to display their products. Today the passenger car makers number 32.

"Not one has been able to survive the test without the aid of advertising. Not one today could hope to sell its output without this very necessary selling help.

"If it were not for the power of advertising, production schedules would have to be cut. Buying power of the manufacturer would be decreased. Costs would mount. And the automobile, instead of actually being lower in price than it was a decade ago, would be considerably higher. From the start, advertising in newspapers and other periodicals has helped materially to lower costs.

"Another positive advantage to the public is this. While advertising helps the worthy product towards quick success, it just as speedily puts the unworthy product out of existence. For a car, or any other commodity, must live up to the expectation of the public created by its advertising or it is doomed to failure."

Indianapolis Pump & Tube Renamed Noblitt-Sparks

INDIANAPOLIS, Jan. 24—The name of the Indianapolis Pump & Tube Co., manufacturer of Arvin heaters, tire pumps and other equipment, has been changed to the Noblitt-Sparks Industries, Inc. Q. G. Noblitt is president, and Frank H. Sparks, secretary and treasurer.

Jest—a Bit Cynical

By Sherman Swift

SUPPOSE you were a manufacturer who, at the rather large expense incidental to such action, had arranged to broadcast "your hour" from any one of the two or three really worthwhile stations. You had signed a contract to tell the world, at the hour of eight, every Friday evening. Pride of possession, as it may be called in this case, is strong in all of us and even the great manufacturer who has had the intelligence to run his shoe-string into a tannery somehow feels that his radio hour is the high spot of each Friday evening. If it be that he is at all imaginative, he may picture thousands of united families throughout the land, gathered about the loud speakers, intently listening to his program and mentally thanking him for an interpolated hour of freedom from the cares and turmoils of a busy day. And if he is at all mercenary he may also see another side to the picture—the thousands of housewives, leaving next morning's breakfast dishes piled in the sink and rushing off to the store to buy a supply of his product, that they may show their appreciation of his beneficence.

BUT suppose, on the very hour that his Ritzy Revellers are to hold forth, John McCormack and Maria Jeritza are to sing for another concern? How many will listen to his program? Possibly the few that cannot get the station from which Mr. McCormack and Miss Jeritza are to broadcast, and there is reason to assume that even they may step across to the neighbors to hear the performance. In the meantime, the Ritzy Revellers are playing to empty seats, so to speak. But the station management doesn't worry; the manufacturer is paying the bills and he cannot cancel. And the next Friday night his rival, or even a manufacturer in another line, starts a three months' broadcast with Sousa's Band, from another station—on "his hour." All during the time that the thousand-dollars-a-minute aggregation is playing, he may be sure that no one is tuning in on his thousand-dollars-an-hour outfit.

RADIO-INCLINED advertisers who will study the daily announcements of programs will find that it is unsafe to count on any one hour of the week in which they can hope to broadcast with the assurance of getting the undivided attention of even a small minority of the dial-twisters—unless they are willing to spend enough money to hire Will Rogers, and even he can't hold the air against all comers. The only economical way to spend your money in radio advertising—and economical in this case means expensive, no matter how you figure—is to hire someone in whom the public is intensely interested. There is only one such person—Lindbergh. And the drawback to that is that Charlie is inarticulate. He can't even sing.

ANOTHER thing, most important to those who believe that they can spend a portion of their large or small advertising appropriation to advantage via radio—be sure to specify in your contract that you are to have the services of an announcer who has had the benefit of at least a grade school education. Last night, during a fairly important hour, the announcer rather spoiled the effect of a reasonably good program—good enough to listen to when our favorite station, because of a run-down battery could not be enticed within listening distance—by the way in which he prefaced the various selections. I first had suspicion of him when he referred to the "immortal" stories of that "notorious" writer, mentioning a penny-a-liner whose chief claim to fame is a series of fairly readable detective stories. He next tried to eulogize "that great exponent of the silent dram-er," referring to Valentino and the Four Horsemen of the "Aca—the Acropop—the (finally he got it) Pocapalypse." When he referred to "H. J. Wills, the famous arthur," I shut off. I require comparatively little of my announcers, but in order for me to tolerate them they must at least know the difference between a typewriter and a boxing glove.

Gas, Oil and Hot Dogs—Drive In

PLEASE send me a list of piston misplacement on the 1928 cars," writes I. M. True of Dead Center, Ill. So far we have been unable to send the list as all of the cars seem to have their pistons well located.

Let me tell you, said the used car salesman, "that this car is a going automobile."

"Guess you're right," admitted the prospect, at least it looks as though three tires would 'go' within the next few miles."

The editor of the South Fork Times (Minn.), is either facetious or cynical. Here's a news item from that esteemed weekly: "Art Fridolf, who has been tearing around the country for several years in all kinds of home-made race cars, without accident, came a cropper the other night. While coming down Main St. at about 60

m.p.h., he skidded, smashed through Hansen's barber shop and came to rest against the back wall of the garage. It is not a car now; it is junk. Art broke his arm and Harry Hansen got a crack that has kept him still unconscious. This is the first high speed accident in this section in which nobody was hurt nor any property damaged worth speaking of."

"We'll be glad to allow you every penny your old car is worth," said a salesman. "I never would think of letting it go for so little," was the frank answer.

An investigation has just been made to find out how many people work in the automotive trades. That's easy; about half of them.

Vacuum brakes are an interesting and practical development. However, should the vacuum fail

the driver must use his head—for a little more pressure with his foot will apply the brakes mechanically.

Dilution at one time was most troublesome in winter. Since the eighteenth amendment it has become increasingly annoying and common at all seasons.

If there are six ducks on the Cadillac coat-of-arms, how many dodges on a Dodge. Thanks to John Cleary, who used to be Cadillac's ad man, we learn that they aren't ducks at all; they're cygnets. Shucks, and we needed just one more paragraph.

"The ancient remark relative to the 'quick or the dead' is just as appropriate today as it ever was." You've got to be quick or you'll be dead," writes a contributor who must be a pedestrian.

John Cleary Says—

If you still persist in thinking of competition merely as price-cutting, you are living in an age that is past.

Time was when an automobile dealer's competitor was just another automobile dealer; an automobile salesman's competitor was just another automobile salesman.

Today all that is changed.

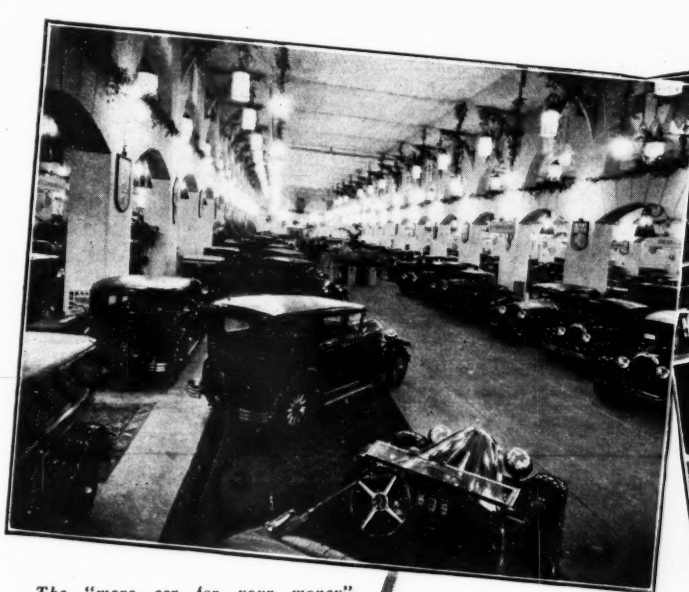
The automobile dealer and his salesmen are in active competition today with the dealers and salesmen for radios, vacuum cleaners, electric refrigerators, insurance, investments, real estate and a host of other things.

And the aeroplane dealers and salesmen are just around the corner.

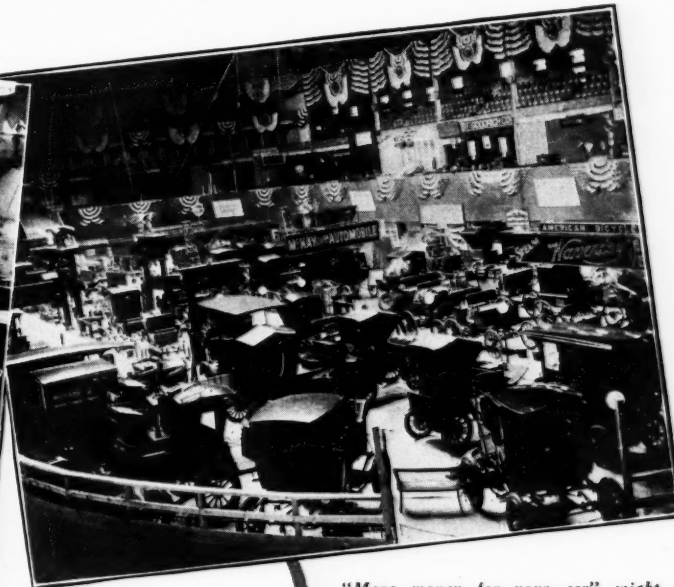
Business will not drop into your lap any more, no matter how good your product is.

Including the Czecho- Slovakian

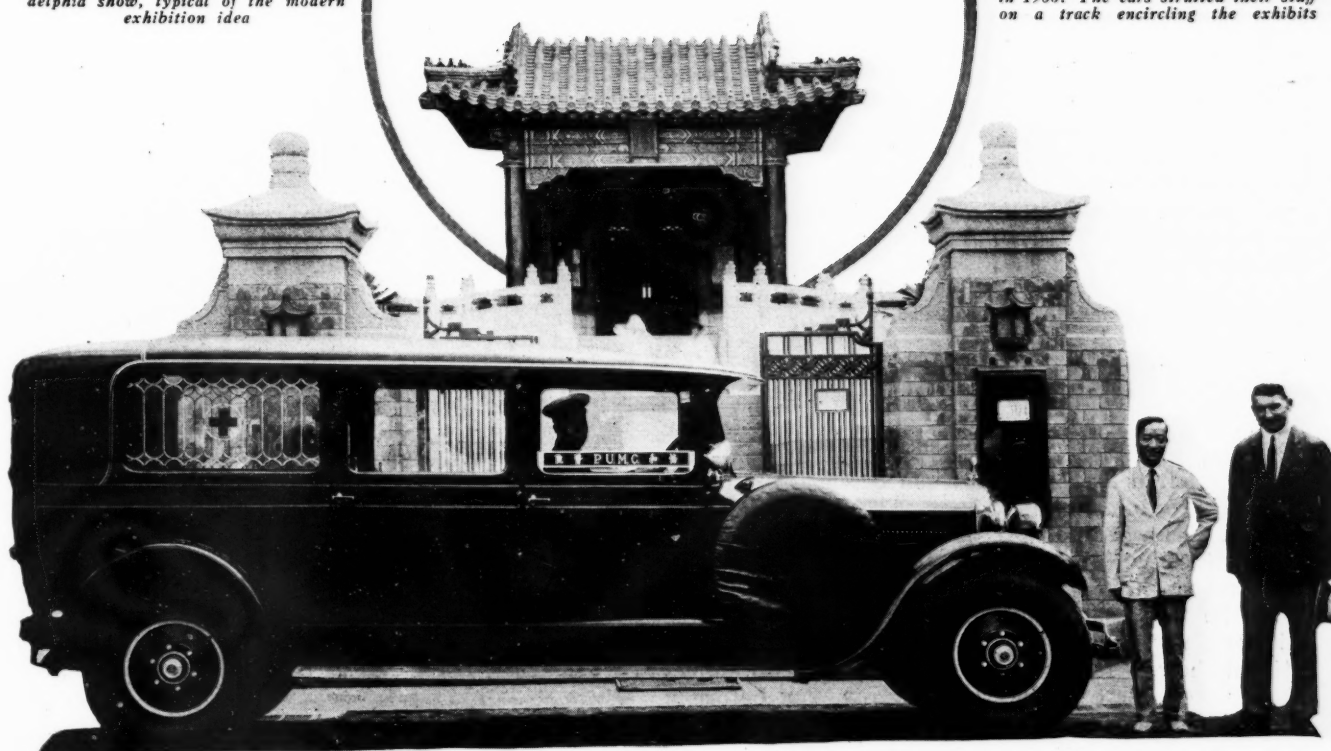
In the group at left are eight executives and engineers of the famous Skoda works of Pilsen (where have we heard this name before?) Czecho-Slovakia. They were snapped at the Dodge plant in Detroit while getting pointers on American automobile manufacturing methods



The "more car for your money" slogan applies even to automobile exhibitions that charge for a look. Above is a view of the 1928 Philadelphia show, typical of the modern exhibition idea




"More money for your car" might have been the slogan in nursery days of the industry. Above is a view of the first auto show held in New York in 1900. The cars strutted their stuff on a track encircling the exhibits



Chinese are dying to get into this Studebaker car. It happens to be an ambulance purchased by the Rockefeller Foundation for use by the Peking Union Medical College. But one is hardly enough in war-ridden China

FIRST ANNUAL

Automobile Show



The Coliseum, CHICAGO
March 18 to 25, 1901

FOR DETAILS ADDRESS

THE MOTOR AGE, Monon Building, CHICAGO

Reproduction of the first advertisement announcing the first annual Chicago Show. It appeared in MOTOR AGE October 11, 1900

THE birthday of a giant is an interesting event. The Chicago Automobile Show—which becomes 28 years of age on Saturday, January 28—is an industrial giant, like unto Pantagrue, that good young prince in whose throat and mouth were whole cities, and whose tongue was large enough to protect armies from the rain.

Of especial interest to the readers of this publication was the birth of the Chicago Show giant, because MOTOR AGE conceived it, went through laborious pains in bringing it into the world and tenderly nursed its lusty infancy. MOTOR AGE is proud of the way her baby has grown.

Because of the active part he played as editor and part-owner of this publication at the time and because of his continuously successful rearing of the show ever since, it might in all truth be said that the first Chicago Show was sired by Sam Miles and dammed by MOTOR AGE (be sure to make that "dammed," Mr. Printer).

Sam Miles was the first editor of this publication. He remained with it until, having ably demonstrated his showmanship in the management of automobile shows, he was called upon, two years after the first Chicago Show, to become general manager of the two national shows. It is significant that these two annual exhibits were first predicted by MOTOR AGE before a single show had been held in either New York or Chicago. Mr. Miles has managed the shows ever since.

Motor Age

*Earliest in Series of 28 Annual
Originated, Planned and Managed
Editor at That Time—
the Industry's*

By John

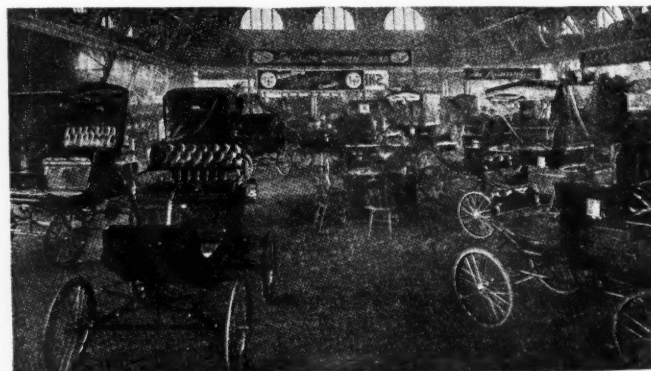
Chicago Show

1901

OF the 89 exhibitors in the first Chicago Show, 26 were from Chicago, 10 from New York City and 5 from Cleveland. The remaining 48 were scattered through 35 manufacturing points, mostly in the East. Only one exhibitor from Detroit.

Like Pantagrue, the Chicago Show was a huge infant at delivery. But the two accouchements differed in another important respect. You will remember that Gargantua was the father and Badebec the mother of Pantagrue. Gargantua lived and flourished many years after their princely offspring arrived to bless their union, but Badebec died at the birth of her first-born. The successful delivery of the Chicago Show, however, marked the beginning of a long and eventful career for both its parents. Sam Miles and MOTOR AGE have been the faithful *servi servorum* of their kingdom—the automotive industry—for lo, these twenty-nine years. Long may they both wave!

The exact date of the conception of the Chicago Show, like the date of other similar historical events—save that of Tristram Shandy—is unrecorded in history. The first knowledge the world had that MOTOR AGE was



If you want to know how the automobile has advanced, contrast this with a booth in this year's show

Held First Chicago Show

*National Exhibits in Chicago Was
aged by This Publication, Whose
Sam Miles—Later Became
Impresario*

Cleary

Comparisons

1928

OF the 182 exhibitors in the 1928 Chicago Show, 21 come from Detroit, 17 from Chicago, 10 from Cleveland and 10 from New York City. The remaining 124 are scattered through 80 manufacturing points, mostly in the Middle West.

in the interesting condition which foreshadowed the arrival of a stranger in our midst, was on October 11, 1900. In its issue of that date MOTOR AGE published the first advance news story of the show. Under the heading, "The Motor Age Exhibition," the article ran as follows, *in toto*:

"The dates for the automobile exhibition, being promoted by the publishers of MOTOR AGE, are March 18 to 25, 1901, inclusive. The promoters, being interested in the industry in a manner far more stable than that of merely giving an exhibition for the purpose of making money, may be depended upon to guard the interests of



Sam Miles, editor of MOTOR AGE when it conducted first Chicago Show, and entrepreneur of the annual exhibits ever since

exhibitors. The building where the exhibition will be held is the Chicago Coliseum, located less than a mile from the business centre of the city and accessible by various lines of transportation. The building, of which the accompanying illustration shows the entrance, was constructed solely for exhibition purposes and is admirably adapted to the purpose. It has a floor space considerably in excess of that of Madison Square Garden, as well as ample seating capacity.

"The plan of the building readily adapts itself to an automobile exhibition. A track, 20 feet wide and nearly 500 feet around, will be installed for showing the paces of the various vehicles. This is wide enough to allow of three abreast and will afford ample space in which to demonstrate the advantages of the different makes. The exhibition spaces will be located both inside and outside this track. The inside will be reached from either end by a broad pair of stairs leading down from the spacious gallery, where there is ample room for spectators to rest and to view the vehicles on the track while not making a closer examination. The aisles will be of ample width to prevent crowding."

The accompanying illustration, showing the Coliseum entrance, was similar to the one used in the first advertisement of the show, which appeared in the same issue and is reproduced with this article.

As a result of this announcement, it was stated in the



The Gibson Girl, pyrography and ping-pong were the rage when these expressed the last word in motor vehicles

MOTOR AGE HELD FIRST CHICAGO SHOW

THIS, the first published prophecy foretelling the annual national shows in New York and Chicago, was printed in *MOTOR AGE*, issue of Nov. 1, 1900, before a single show had been held in either of the two cities.

"The future history of automobile shows will be that there will be one big show in New York and one in Chicago each year, at such dates as the future and varying conditions of the industry shall indicate as being most advantageous. As gatherings of the fashionables these two shows are bound to reach the plane that has been established by the horse shows in these two cities. As occasions where all the automobile agents from the territory tributary to the cities will gather to complete arrangements for the coming year with the exhibiting manufacturers, they will reach and surpass the bicycle shows.

"Because logic points to the holding of two great annual exhibitions in the two great cities, it does not follow that there may not, and probably will, be other shows, but they are bound to be local in character. What the big shows will be to the manufacturers, the local shows will be to the retailers. The two big shows at New York and Chicago will be the ones in which the manufacturer is vitally interested and which he will find it to his advantage to patronize, regardless of what he does about those of local character."

What a farseeing prophet *MOTOR AGE* turned out to be!

following week's issue, applications for space were "already so numerous as to cause uneasiness about the ability of the building to accommodate them all." And this in spite of the criticism that "a show promoted by the proprietors of a trade journal will lack the support of the other papers."

The dates for the first Chicago Show were changed before the diagrams and official application blanks were sent out, coincident with their publication in the Nov. 15, 1900, issue.

The copy on the reverse of the blank led off as follows: "The following rules and regulations will govern the First Annual National Automobile Exhibit, to be held under the auspices of *MOTOR AGE*, at the Coliseum, Chicago, March 23-30, 1901, and are a part of the application made on the face hereof."

The price of the spaces ranged from \$1 to \$1.50 per square foot.

Unlimited quantities of red and blue stickers bearing the words, "We hope to see you at the Chicago Automobile Show," and "We shall exhibit at the Chicago Automobile Show," were mailed out to all exhibitors who cared to use them with their correspondence.

Early in January, 1901, the executive committee of the National Association of Automobile Manufacturers, at a meeting in New York, passed a resolution antagonistic to the Chicago Show. Two weeks later, the committee recognized the claims put forward in behalf of the exhibition, rescinded its previous resolution and substituted therefor one which "assured the success of the enterprise and the attendance of a majority of the leaders in its membership," as reported in the Jan. 23 issue of *MOTOR AGE*.

The show opened with a preview on Friday evening, Mar. 22, arranged for the benefit of the automobile owners and other prominent people of Chicago.

The formal opening was the following evening.

"From eight o'clock to half-past ten one of the most happily gathered crowds of auto-interested people spread itself in the Coliseum and made the opening night of the first National Automobile Show in the West a success."

Thus was the open-

ing reported in the *DAILY MOTOR AGE* of Monday, Mar. 24. During the eight days of the show this publication printed a daily issue, containing the official program, list of exhibitors and news and gossip gathered by a corps of editors and reporters.

The 102 spaces were occupied by 89 exhibitors, the products including gasoline and electric passenger cars, business wagons, tires, accessories, parts, motorcycles, bicycles and magazines.

"The show is a selling show," said *MOTOR AGE* in its report on Thursday of Show Week. "The exhibitors say so and they ought to know. It is certain, at least, that they are the last ones on earth to say such a thing unless it is true. 'Have we sold any goods? Well, should the show close tomorrow I would go home amply satisfied with results and more than rewarded for the expenditure made.' Thus spoke one exhibitor on Monday night, and there were many others in the same leak-tight boat."

So the Chicago Show started as a selling show, and it has maintained that reputation ever since. There is every likelihood that this coming show will be the best selling show of the entire series.

MOTOR AGE is proud to have sponsored the first National Automobile Show in Chicago. It is honored in honoring Sam Miles for having carried on so successfully ever since.

The exhibitors at the first Chicago Show in alphabetical order were: Admiral Lamp Co., Columbus, O.; Adams Co., Dubuque, Ia.; American Automobile Magazine, New York; Ainslee's Magazine, New York; American Roller Bearing Co., Boston; Automobile & Cycle Parts Co., Cleveland; American Steel & Wire Co., Chicago; Avery & Jenness, Chicago; Bundy Lamp & Sundry Co., Elmira, N. Y.; Brennan Mfg. Co., Syracuse, N. Y.; Brown-Lipe Gear Co., Syracuse, N. Y., A. C. Banker, Chicago; Badger Brass Mfg. Co., Kenosha, Wis.; Baldwin Cycle Chain Co., Worcester, Mass.; H.

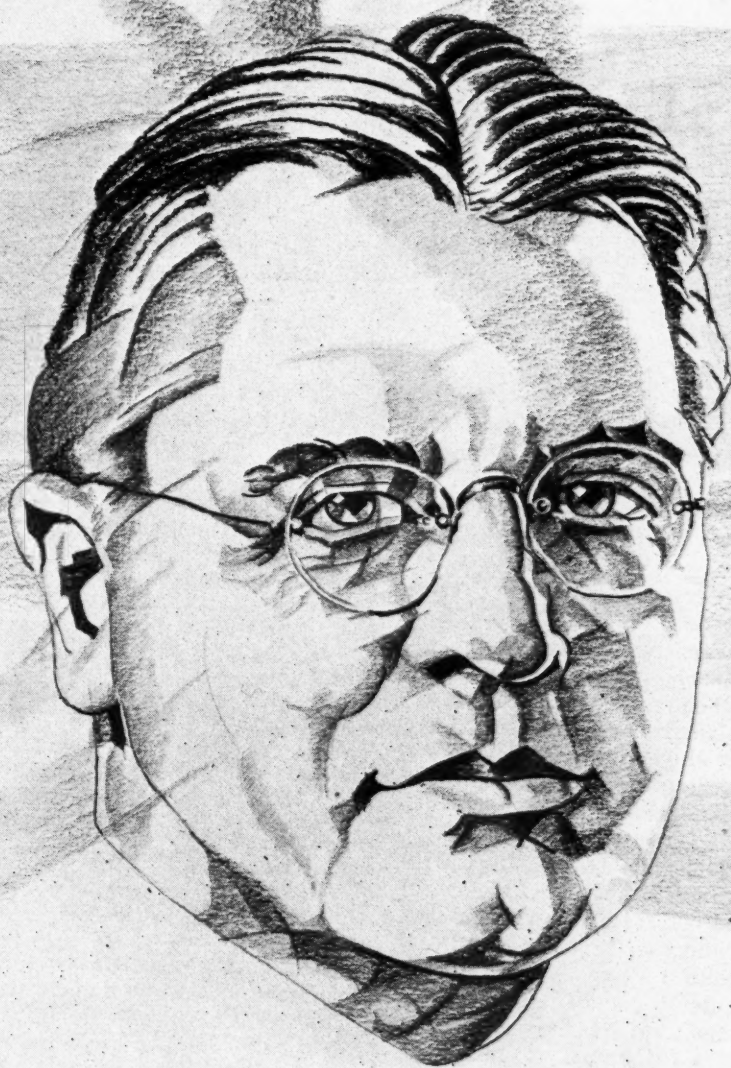
F. Borbein & Co., St. Louis, Mo.; O. V. Bachellette, Winnetka, Ill.; Brookes Motor & Parts Co., Chicago, Ill.; Carriage Monthly, Philadelphia, Pa.; Crest Mfg. Co., Cambridgeport, Mass.; Clarke Bros. Co., Vicksburg, Mich.; Chicago Fire (Turn to page 40, please)

Daily Motor Age

WITH WHICH IS INCORPORATED THE OFFICIAL CATALOGUE OF THE
FIRST ANNUAL AUTOMOBILE EXHIBITION

Monday, March 25, 1901

Pete Keenan



A MOTOR AGE IMPRESSION A.R. GLANCY
President, Oakland Motor Car Co.

The Service Men Suggest and the Customers Invest

*Men on the Service Floor, Schooled in Suggestive
Selling, Have Telling Effect on the Sales
Volume of Winter Accessories*



HE outstanding method of selling accessories—whether in the winter, summer, spring or in the fall—is through the men on the service floor of any retail automotive establishment, who are schooled in suggestive selling.

That is the conclusion reached from a limited survey of Milwaukee dealers. These dealers point out that it is quite the natural thing for service men to sell accessories because customers usually become fairly well acquainted with the service men who take care of their cars, and when one of them suggests that a car should have a heater, radiator shutters or some other accessory, the customer generally has enough confidence in the suggestor to become an investor.

Dealers also resort to direct-mail advertising to inform their customers that this is the time for certain accessories if they would be comfortable in their cars during the winter months, and these letters and literature have brought good results.

The Achen Motor Co., dealer for the Chandler, uses its display room to advantage, and has large cases to show the various accessories in season. Due to the Chandler being equipped with most of the accessories, its business is limited. When a customer for a new car is in the display room and is being shown the models, the salesman suggests accessories which would be useful on the car. The display cases suggest to the customer's mind also that he ought to have some things on his car which are not on the models.

The Briese Motor Car Co., Essex dealer, has done its greatest volume on heaters this winter and has also had a good business on gasoline filters, inside hood liners, driving lights, and motor caps. It makes a special effort to sell accessories that do not come on the car. The greatest aid to the sale of accessories by this firm is the service department. The service men are trained in selling and when a car is brought into the service station the service men check up on the accessories the customer should have and suggest these to him. This plan has worked very well. The automobile salesmen do some of the selling of accessories but the greater percentage is done by the service men.

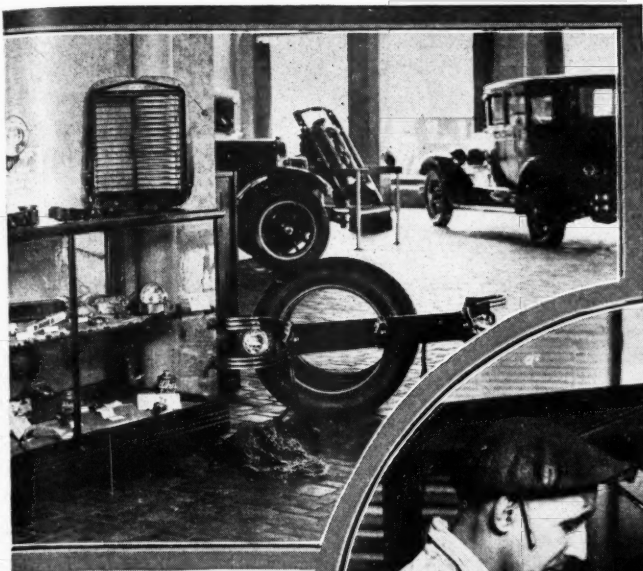
Letters are occasionally sent to customers and prospects by the D. B. Cooper, Inc., Falcon-Knight dealer, and a normal volume is done on accessories every year. No special effort is resorted to but the men on the service floor watch for opportunities to dispose of accessories.

The Edwards Motor Co., distributor for Dodge cars and Graham trucks, believes that letters sent out to customers are good business-pullers, and this firm has done a good volume on shock absorbers, radiator shutters, chains, alcohol, heaters at different prices, and other accessories for the automobile in winter.

The service floor is the place to sell accessories, in the opinion of Steinback-Berry-Goersch, Inc., distributor for the Case cars. The service men suggest and advise the accessories to be bought in season, and they are aided by the displays in several show cases where the customer can see and inspect the various kinds of accessories. A monthly house organ is published by this company and accessories are given as much space as other departments. This keeps the accessory department constantly before the customer, so that he is acquainted with them when the service man endeavors to sell him a certain accessory.

The Osmand-Jordan Co., Jordan dealer, sends a letter each spring and fall to its customers, advising them to bring their cars to the service station to be checked-up and tuned-up for the season. A paragraph at the bottom of the letter is devoted to accessories. When the car is brought in for reconditioning, the customer is advised what accessories he ought to have for the season and usually he acts upon the suggestion. The accessory business is highly competitive and much of it is done through the jobbers, as small dealers are willing to give their customers an order on a jobbing house where the customer is given the regular dealer discount. Spotlights have sold well the last few months at this firm.

Ninety per cent of the accessory business is transacted on the service floor at the W. C. Goerke Motor Co., Chrysler dealer. Every service man is a salesman for the accessory department, as the service force has been trained to look over cars and suggest accessories which can be placed on them. This com-



The Achen Motor Co., Milwaukee, uses a display case effectively to display and sell accessories

6

pany does some advertising which includes placing its name on some parts. Radiator shutters have sold very well so far this winter at this garage.

More heaters have been sold this year than ever before by the Harry A. Collins Motor Co., Essex dealer, mainly through personal solicitation by the nine men employed in the service department. Cardboard panels for the inside of the hood have also been pushed and there have been some chains sold. Mr. Collins finds that the service men are the logical members of the force to sell accessories as they can check-up more readily than anyone else in the organization and can advise the customer what he should have.

Direct mail advertising and selling by the service men who receive a commission for their sales, are moving accessories at the Stehling Motor Co., Nash dealer. This firm has disposed of a large number of radiator shutters and heaters so far this winter among its customers, due to the personal solicitation of em-

There is agreement among certain Milwaukee dealers that the service floor is the ideal place to sell accessories. They have trained their service forces to look over cars that come into the shop and suggest accessories which can be placed on them.

ployees on the service floor.

A letter sent to all its customers just prior to Christmas proved very successful at the Shogren-Thomson Co., Kissel distributor. This letter suggested that accessories such as tire chains, radiator shutters, heaters, cigar lighters, and even alcohol or non-freeze solution, be added to the Christmas shopping list. The letter was used to remind car owners of things they could use during the winter on their cars and when they came into the station, the service men followed the letter up by personal advice and suggestion.

Suggestive salesmanship, to which these Milwaukee dealers have become converts in the matter of accessories, is not new. But its application on the service department floor is what might be styled a modern development.

It has been recognized practice in accessories and supplies stores to suggest a chamois when a customer comes in to purchase polish, to call his attention to seat covers after he has bought the upholstery nails that brought him into the store, etc., etc.

Now the practice has found its way into the service shop where opportunities for suggesting accessories are plentiful and propitious.



A service man of Briese Motor Co., Milwaukee, selling heater to customer on service floor





The boss is the man the employees feel is responsible for their being underpaid

THE boss of an automobile business is a person who should be very much envied.

The boss is the man all the customers want to buy their car from.

The boss is the man the prospect wants to appraise his car.

The boss is the man the prospect wants to take it up with when an appraisal is not satisfactory.

The boss is the man the owner holds personally responsible for the service a car gives.

The boss is the man the factory holds responsible for car sales.

The boss is the man the factory holds responsible for dissatisfied owners.

The boss is the man who spends two days each month entertaining the factory representative.

The boss is the man who takes a long, tiresome trip to the factory twice each year to listen to the same things that were said the year before.

The boss is the man who must answer 50 letters from factory departments each day.

The boss is the man who hires the salesmen.

The boss is the man who tries to hire salesmen with enthusiasm, and failing in that fires them—with enthusiasm.

The boss is the man who fires a poor salesman and realizes as he does it the next one will probably be worse.

The boss is the man who passes the prospects he hears of to salesmen he knows will hardly call on them.

The boss is the man who thinks up contests and prizes to induce lagging sales forces to earn larger commissions for themselves.

The boss is the man people complain to about parts they cannot get.

The boss is the man people complain to when the parts man tells them he cannot obtain some accessory they had their hearts set on.

The boss is the man people complain to about parts that failed.

The boss is the man who must appease the customers the parts man offends.

The boss is the man who must convince the parts man he cannot invest the entire assets of the company in parts.

Who is the

*Probably Not Until You Have
Will You Have Learned That
ure. If You Are Moved
Have Served as a*

The boss is the man who authorizes buying a high priced parts system only to see it neglected by a low priced parts room force.

The boss is the man who tries to figure out from the bookkeeper's statement the actual condition of the business.

The boss is the man who tries to get accurate figures on the business without spending the entire profit on bookkeeping systems and experts to keep them.

The boss is the man who spends six months teaching a stenographer to write a good letter only to have her marry and quit work.

The boss is the man who worries most about the impression the office and its employees make on customers.

The boss is the man who is accused of making love to all the stenographers.

The boss is the man who worries about collections.

The boss is the man people go to when they cannot pay their accounts.

The boss is the man people go to when they cannot meet the payments on their cars.

The boss is the man people go to when they think there is an error in their account.

The boss is the man who soothes the men the collector offends.

The boss is the man the mechanics hate to work for.

The boss is the man the service manager keeps the "Faulty work" reports hidden from.

The boss is the man who realizes he cannot keep a good mechanic unless he allows him the privilege of insulting customers.

The boss is the man who must sift the truth out of the shop foreman's and the customer's report of a faulty overhaul.

The boss is the man who must keep the shop foreman contented with a reasonable expenditure for tools.

The boss is the man who figures out a method of meeting the payroll.

The boss is the man who bullies, begs or cajoles the banker into making loans.

The boss is the man who tries to steal something from expansion for periods of business depression.

The boss is the man who fights a lone-hand battle against "overhead."

The boss is the man who must see his financial reserves torn down by the necessity of declaring dividends.

The boss is the man who is stopped on the street by people who tell him the faults of his employees.

The boss is the man whose employees are stopped in the street to hear his faults.

The boss is the man who never leaves the office without offending someone who calls in his absence.

The boss is the man who never attends any social

BOSS?

By
Collis Drummond

*Read This Penetrating Analysis
the Boss is So Composite a Fig-
to Sympathy the Article Will
Boon to Bosses*



[[Illustrations by Pete Keenan]]

affair without having someone tell him about the trouble they are having with their car.

The boss is the man the bookkeeper hates to have go through the books.

The boss is the man the service manager wants kept out of the shop.

The boss is the man who is interrupted every time he tries to sell a car by someone with a complaint on that model.

The boss is the man the parts man hates to have in the parts room.

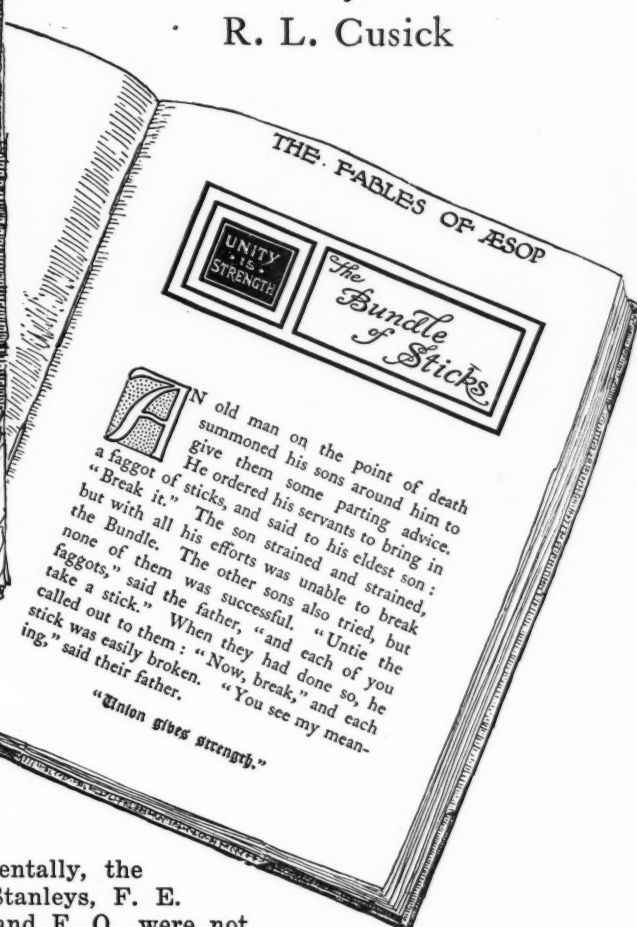
(Turn to page 40, please)

Famous Automotive

*Industry's Stage Feat
Performers, Many of
to Bring Down*

By

R. L. Cusick



AESOP was right. Unity among brothers gives strength. Nowhere is this better illustrated than in automotive history.

Not in literature, science, art, finance or politics, nor in any other industry we know of, have brothers climbed to fame and fortune together in such numbers as in the automotive industry.

True, if we think hard enough we can name a few combinations of brothers who have gained national and international fame in other fields by applying the moral of Aesop's fable—the Rothschilds, the Guggenheims and the Van Sweringens, for example—but in automotive pursuits it seems, singularly enough, that it has always been common practice for brothers to work in double harness.

Since the earliest days of the "horseless carriage" brothers have played an important part in automotive development. As partners, co-workers and associates they have served the industry as engineers, inventors, organizers, vehicle manufacturers and parts makers. It is impossible to write any kind of an automobile history without mentioning at the very outset the Duryeas, the Packards, the Appersons, the Whites, the Stanleys and half a dozen other brother teams. Inci-

dentally, the Stanleys, F. E. and F. O., were not only brothers but they were twins.

And coming right down to the present time, such a history would be woefully incomplete did it fail to make prominent reference to the Fishers, the Grams, the Stranahans, the Widmans, the Jewetts and a long list of others.

It is no trouble at all to complete a list of 30 or 35 different sets of brothers who have been, or now are, famous leaders in the automotive industry. Let's qualify this by saying in the American automotive industry, because Europe has a separate list of its own which is quite imposing; it appears that the particular virus which is responsible for causing brothers to team together in automotive enterprises is very cosmopolitan and operates as effectively there as here.

Particularly prominent in the present era, and merit-

Brother Acts

ures Bevy of Star
Whom Continue
the House

ing special mention because of their ability to win any prize which might be offered for the largest number in one group, are the Fisher brothers of Fisher Body fame. There are seven of them—Fred J., Charles T., Lawrence P., William A., Edward F., Alfred J. and Howard A.

From Fred down to Howard, the seven Fishers have stuck together in business through thick and thin, always keeping their eggs in the same family basket, so to speak, and the result is seen today in the Fisher Body Corp., one of the most valuable of all General Motors properties and the vehicle which carried the brothers to the peak of wealth and industrial power.

Four of the brothers, Fred, Charles, Lawrence and William, are now directors of General Motors. Fred, Lawrence and William are also vice-presidents and Lawrence, in addition, is president of the Cadillac Motor Car Co. William, besides his other duties, serves as president of the Fisher Body Corp. Edward, Alfred and Howard are all prominently affiliated with the management of Fisher Body.

The joint fortune of the Fishers is immense and they handle this together just as they have handled the rest of their business affairs. Fisher & Co. has been set up as a common repository for their funds and is the source upon which they draw for outside investments, such as the recent purchase of a heavy interest in Baldwin Locomotive and the erection of a gigantic office

building which has been started in Detroit.

The Fishers were born in Norwalk, Ohio, where their father, Lawrence, was building wagons and carriages on a small scale with his brother Andrew. As the young Fishers grew up they went into their father's shop to learn the trade. At 25 years of age, Fred, the eldest, went to Detroit, where an uncle, Albert Fisher, also had a small carriage-building business. But before long he was with the C. R. Wilson Carriage Co., which at that time was the largest carriage body concern in the world. He started in the drafting room but climbed rapidly and soon became manager of operations. In the meantime his brother, Charles T., had joined him.

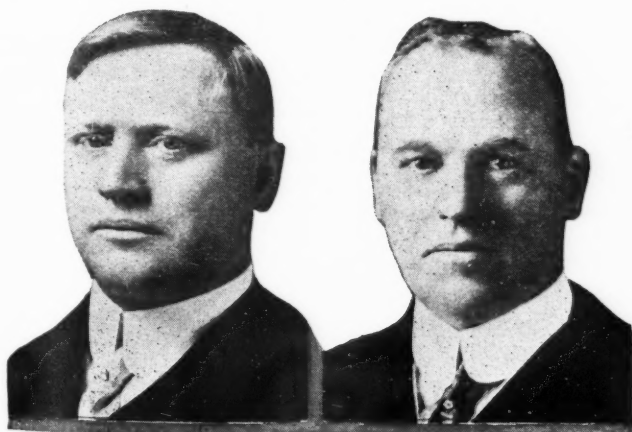
In 1908 Fred and Charles, with their Uncle Albert, went into business for themselves. They organized the Fisher Body Co. with a capital of \$50,000 and the uncle was elected president. He withdrew a short time later, however, when the boys took over his interest. Business began to boom and rapid expansion was imperative, but it was difficult to raise capital to take care of the fast growth. At this stage Aaron and Louis Mendelssohn (brothers) became interested in the plucky fight the young men were waging and furnished the financial aid which ultimately put the enterprise "over the top."

The Fisher Body Corp. came under the control of



*The Seven
Fisher
Brothers*

Top, left to right—Lawrence P., Edward and William A.
Center—Alfred J. (left) and Howard A.
Bottom, left to right—Charles T. and Fred J.



John (left) and Horace Dodge



The three Graham brothers, who are now at the head of the Graham-Paige Motor Car Co. Above, left to right—Ray A. and Joseph B. Below—Robert C.

General Motors in November, 1919. Among the chief assets which General Motors acquired by the deal was the Fisher brothers themselves. We might add, as a concluding bit of information, that Fred, the oldest, is 50, and Howard, the youngest, 26.

Another combination that is very much in the public eye at this time is composed of the three Graham brothers, Joseph B., Robert C. and Ray A., who made a tremendous success of the Graham truck, sold out to Dodge Bros., Inc., and are now at the helm of the Graham-Paige Motor Car Co.

The Grahams made their start in the glass business. Joseph B., who is the inventor of several glass-making machines, organized the Graham Glass Co. in 1900. Later on his brothers joined him and were made officers of the company. In 1916 they branched out into the tractor industry. It was a short step from there to the manufacture of trucks. The Graham truck, using the Dodge engine, was an immediate success. There was such a close business relationship between Graham Brothers and Dodge Brothers that Dillon, Read & Co., the bankers, after acquiring the latter, in 1925, also took over the former and made it a division of the reorganized Dodge Brothers, Inc.

The three Grahams went along, Joseph B. as vice-president in charge of manufacturing of Dodge Brothers, Inc., Robert C. as vice-president and general sales manager, and Ray A. as general manager. They have since severed their relations with Dodge, and bought out Paige after forming the Graham Brothers Corp., an investment company similar in set-up and purpose to Fisher & Co.

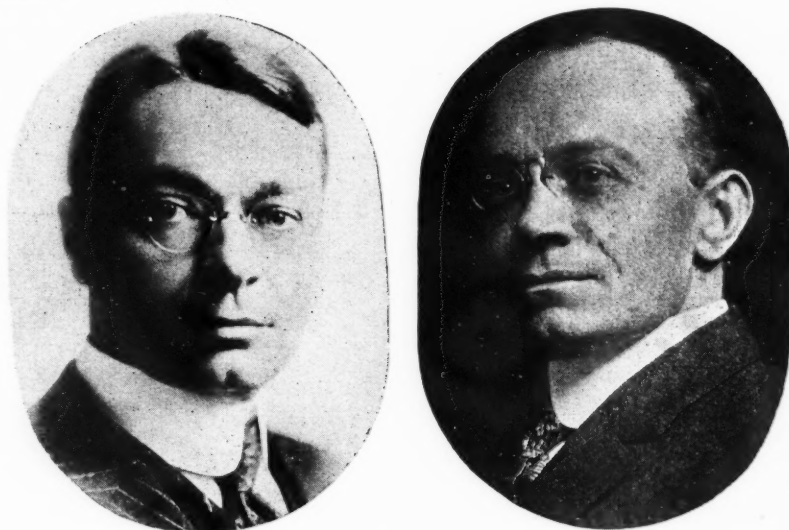
It seems logical at this juncture to bring in the

Dodge Brothers, John F. and Horace E. Few names in the history of the industry have been more widely advertised than theirs and few men ever achieved such outstanding success in so short a time.

The Dodges were born in Niles, Mich., in the middle '60s. Their father was a machinist and ironworker and the boys became machinists. They worked together at their trade at various places and finally located in Detroit. There they became owners of a modest machine shop and made the acquaintance of Henry Ford when the latter was working on his idea of a low-priced, quantity-production car. They acquired stock in the Ford company by giving Ford the use of their production facilities. That was in 1901.

The brothers remained with the Ford company until 1914. The rise of the company in the meantime had earned them a large fortune. When they withdrew it was to organize a company of their own and start the manufacture of the Dodge car, which was in a higher price class than the Ford. They were eminently successful from the beginning. During the first few years that they built their own car they continued to hold their stock interest in the Ford company. This was disposed of, however, in 1919.

The Dodges both died suddenly within a few months



The Marmon brothers, Howard (left) and W. C.

of each other in 1920. The company, managed by their estates, continued to prosper. Its sale in 1925 to Dillon, Read & Co., bankers, for \$146,000,000 cash was the biggest industrial transaction of its kind in history.

At the helm of the Champion Spark Plug Co., of Toledo, Ohio, are the Stranahan brothers—Robert A. and Frank D. The Stranahans wield great power in the industry although they are not as well known to the public as some of the older leaders, as their name has never been used in the titles of their corporate interests or to designate their products.

Frank was in the automobile business in Boston in the early days. He found it necessary to import most of the accessories he handled and finally put in a wholesale accessory department. While Frank was developing his business Robert was in Harvard. The latter, after graduating, went to work in his brother's stockroom. After familiarizing himself with the details of the line he went on the road as a salesman. He became especially interested in spark plugs and

soon he and his brother Frank embarked upon the manufacture of Champion plugs in Boston. They discovered that they were too far from the center of the industry and consequently moved their infant business to Toledo, where it grew rapidly. Robert A is president.

Harry M. Jewett had two brothers associated with him in the management of the Paige-Detroit Motor Car Co., which as previously mentioned, is now owned by the Grahams. Harry Jewett helped to organize the company and later became its president. His brother Frederick L. was first vice-president and another brother, Edward H., was a director of the company.

The Studebaker Corp. of America is an outgrowth of the carriage and wagon business founded by five brothers—Henry, Clement, John M., Peter Everst and Jacob Franklin Studebaker. Four of these brothers died before the company which they created entered the automotive field, but John M. lived to see the transition and to serve as first president of the Studebaker Corp. He afterwards became chairman of the board, and in 1915 the position of honorary president was created by the directors for him. He died in 1917.

The Kissel Motor Car Co. was organized in 1906 by four brothers who still control its affairs. George A. Kissel is president and general manager, O. P. and A. P. are vice-presidents and W. L. is secretary and treasurer.

The Marmon Motor Car Co. of Indianapolis is the development of the Marmon brothers, Walter C., who is chairman of the board, and



The Stranahan brothers, who control the affairs of the Champion Spark Plug Co.—Frank D. (at left) and Robert A.



H. H. Timken. He and his brother, W. R. Timken, built up the Timken roller bearing and axle business

America. Fred has since become famous as one of the foremost designers of high-grade stock cars and racing cars in the world. He and August still work together in the engineering department of the Duesenberg Motors Co.

Two other well known engineers in the industry are the Crawford brothers, Charles S. and James M. The former is the chief engineer of the Stutz Motor Car Co. of America, Inc. The latter was until recently chief engineer of Auburn and is now in the engineering department of Chevrolet.

Russell E. Gardner, Jr., and his brother, Fred W., are at the head of the Gardner Motor Co. of St. Louis, the former as president and the latter as vice-president and treasurer.

The business of the John Warren Watson Co. of Philadelphia, manufacturer of Watson Stabilators, is conducted by John Warren Watson, who invented the device and organized the company, and his brother, Richard A. Watson. The former is president and the latter treasurer and general manager.

Another Philadelphia concern, the L. H. Gilmer Co., which makes a line of automobile fan belts, transmission lining and upholstery cloth, is headed by L. H. Gilmer. A brother, G. Walker Gilmer, is a director.

The Davis brothers—George W. and Walter C.—are the prime movers behind the Davis Motor Car Co., of Richmond, Ind., George W. being president and general manager and Walter C., secretary and treasurer.

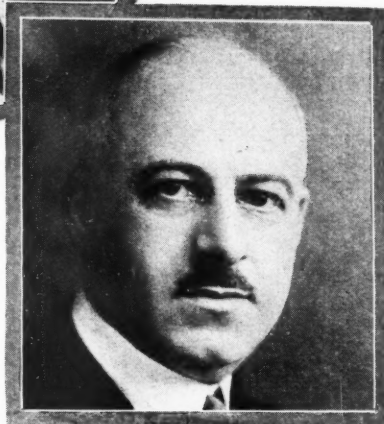
H. H. and W. R. Timken of the Timken Roller Bearing Co. and the Timken-Detroit Axle Co. are brothers. They are sons of the late Henry Timken, a pioneer carriage builder who turned to the manufacture of roller bearings and automobile axles. When he divided his interests into two companies in 1909 he placed H. H. at the head of the roller bearing company and W. R. took charge of the axle company.

Interested in the organization and management of the Brown-Lipe Gear Co. were two Lipe brothers. Charles E. and William C. The former died in 1905

(Turn to page 41, please)



There are four Kissel brothers. Two of them, George A. (above) and W. L. (right) are shown here. They are the chief executive officers of the Kissel Motor Car Co.



Howard C., vice-president.

There are two Duesenbergs—Fred and August. Working together, they built the first straight-eight stock car in

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The "Flap-Jack" Idea to a Turn

To Seven Turns Annually, in Fact, for the Reference is to Stock Turn-over. Besides, the Segall Tire Co. Vulcanizing Plant Makes a Profit on Every Repair Job

DOWN in Wichita Falls, Tex., a city of some 75,000 in the heart of an oil region where motor vehicle tires must carry heavy loads most of the twenty-four hours of each day, a tire dealer has found that a properly equipped, attractively kept and desirably located vulcanizing plant will increase the sale of new tires and at the same time pay a profit on its own operations.

Gene Segall, owner and manager of the Segall Tire Co., one of the best equipped establishments of its kind in the Southwest, has made his vulcanizing plant increase his tire sales 20 per cent and he expects to make that plant still further boost shop sales. Mr. Segall started in the tire business some 10 years ago with a small outfit. He now carries a stock of some \$50,000 worth of tires, tubes, etc., and turns that stock over about seven times annually.

"My vulcanizing plant is one of the best salesmen I have," Mr. Segall said, "and I believe it sells tires because of the way I located it and the way I keep it."

Mr. Segall said that when he decided to install the vulcanizing plant he remembered the story in the Bible about the light being hidden under the bushel measure. Also he remembered how the "two-minute" lunch houses station their "flap-jack" artists so they may be seen plying their trade from the streets. He said the reasons these lunch houses had their "flap-jack" cookers so they could be seen "tossing them up" by persons passing along the street was to draw trade.

So Mr. Segall decided to apply the "flap-jack" artist principle to his vulcanizing plant. He located it on the street, so to speak, for the plant is up near the front of the establishment and can be seen in operation through the big plate-glass windows from two streets.

Mr. Segall explained that when he put in his vulcanizing plant he wanted to let the people know about it, wanted them to bring their old tires to his place to be repaired, and he thought the best way to attract attention to his business immediately was to get the people to talking about his plant.

It didn't take him long to realize he had hit upon the right idea. The crowds thronged the sidewalks and watched the vulcanizing plant in operation. The plant became the talk of the town and the surrounding country. The people still stop and watch the men repairing old tires. They are still talking of Segall's place. But what is more important they are bringing their old tires in and having them repaired when they are not

too far gone, and are likewise purchasing new tires. Segall makes a thorough examination of tires brought in to be repaired. If he believes they can not be made



The Segall vulcanizing layout from the outside looking in. Passersby are attracted like the hungry by the restaurant flap-jack artists. Note part of stock displayed in the store

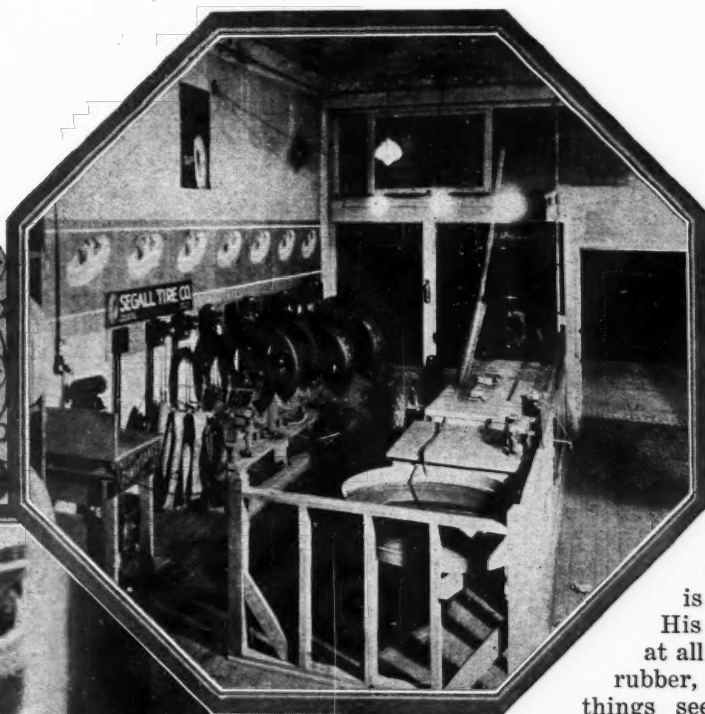
to give the owner the service he has a right to expect after the repair work is done, he frankly tells the patron. Right then is a good time to sell a new tire, and he usually does it.

The Segall Tire Co. keeps a close record of work done in the vulcanizing plant and of the conditions of tires

Does His Business

By
J. A. Webb

From the inside
of the Segall
shop looking out



according to the owner, there is another thing which figures in pulling in new tire business so far as the vulcanizing plant is concerned. That is to see that the plant is kept scrupulously clean. Mr. Segall says that if the vulcanizing plant is to be located where it can be viewed by the multitudes, it must be "easy on the eyes." That is it must be clean and attractive. His plant is a model of cleanliness at all times. Grease, dirt, pieces of old rubber, ragged fabric and many other things seen so often about a vulcanizing plant are not in evidence at Segall's.

The floors are clean. Waste matter is tossed into attractive containers for that purpose and hauled from the building.

All tires to be repaired are thoroughly washed and cleaned before they go to the equipment. When the equipment is not in use it is housed in dust-proof covers. The employees must keep clean; a dirty, greasy suit or face on an employee is not an attractive sight. Employees are always as clean as is consistent with their duties.

The Segall plant is one of the most modernly equipped in the Southwest. He uses the Heinz Electric Vapor machines and is able to vulcanize any size tire, balloon or cord. Segall handles the Goodyear lines in his store, but regardless of the make or style of tire brought into his shop he has the machinery to replace the original tread.

Segall features his vulcanizing plant in various advertising activities. He uses newspaper space, tire covers, billboards, telephones, circular letters, signs on bridges and does plenty of personal solicitation.

"Our slogan is 'Economize—Vulcanize,'" declared Mr. Segall. "There is a world of truth in that, for many of the tires now being thrown away have many miles of service in them. That is the kind of tires we are endeavoring to bring to our plant. We do not want tires that can not be repaired. We like to consider our house as a house of service. The owner appreciates that. He likes to have you manifest a friendly interest in his tires. And then when they have given all the service they can, he is going to buy new tires where he has been getting additional service from his old ones. We sell new tires to customers of our vulcanizing plant when they want them and we tell them when they need the new tires."

If it develops that a patron of the vulcanizing plant does not come around when he should, the store usually sends him a card asking that he drive by and have his tires examined. If that fails to bring him in, the office gets him on the telephone and reminds him that he

repaired. The company is always in pretty good position to know when a customer of the vulcanizing plant should have new tires and it goes after the business.

"After you have been doing the tire repair work for a customer and giving him the service he pays for, it is an easy matter to sell him a new tire or a set of them when he needs them," Mr. Segall believes.

While the proper location and the proper equipment of the vulcanizing plant are of prime importance,

THE "FLAP-JACK" IDEA DOES HIS BUSINESS TO A TURN

might have tire trouble when out on the road and that this may be avoided by proper attention to his tires. That usually brings the old patron in. If his tires need some repair work it is done. If what he needs are new tires, Segall sells him.

The company carries a fair stock of "used" tires, tires which have been taken in on trades for new ones and which have been through the vulcanizing plant to put them in the best possible condition. These tires are sold to customers who desire them. Segall never misrepresents a used tire to a customer. He tells him exactly what was wrong with the tire when it came to him and what has been done to remedy that evil. He tells the customer what the tires may be expected to do, what service there should be in them, and sells on that basis or not at all.

Increasing tire sales is not the only thing Segall's vulcanizing plant has done. It is paying a profit on its work—standing on its own bottom. Every job in Segall's plant that goes through the vulcanizing plant shows a profit. That goes whether the work is for a customer or on tires which have been taken in trade for new ones and later sold the public.

The vulcanizing plant is not the only salesman Segall has for new tires. He carries a complete stock, gives them the proper display in a 50-ft. show window.

These displays are changed weekly. They are always attractive. The show window is another salesman of the Segall plant.

Then there is Segall and the regular men on the floor, and between them they are turning over a stock of \$50,000 in tires and tubes about seven times annually. He is employing seven salesmen, every one an expert at his line. They are courteous. Segall says that makes friends for the house and friends mean business.

So far as business is concerned, it is Segall's idea that the customer comes first, last and all the time.

Segall maintains the usual curb and road service. His shop is open 12 hours daily.

"The tire business is a great business," Segall said. "If I were starting over I would get into the tire business. I would install my vulcanizing plant earlier and would not forget that service and courtesy pay dividends. I would put my vulcanizing plant where it could be seen in operation from the street and where it could be seen in operation from the store room and where the stock could be seen from the vulcanizing plant and through the plate glass windows housing that plant."

That's what he has now and the fact that he is doing a big business in the face of stiff competition is an indication that he is on the right track.

Long Mechanical Vibration Damper in Clutch Driven Disk

A CLUTCH incorporating a spring cushion drive between the driven plate and the clutch hub and a friction lining under spring load between hub and plate serving to dampen out vibration has been developed by the Long Mfg. Co. Applied to both single and double plate clutches as manufactured by Long, the system does not differ in principle, only the mounting being affected. This clutch is now found on the Models 62, 72 and 80 Chryslers, the new Hupp and Studebaker eights.

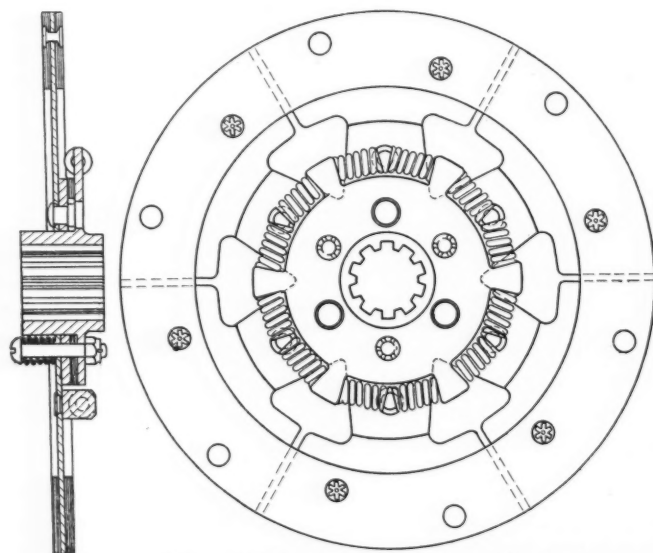
As may be seen by the illustration the clutch plate has radial extension bosses outward from the rim, and the stamped spoked driven plate has riveted to it on

the hub flange side small metal blocks. In assembly short coiled compression springs are forced in with one end butting against the hub flange extension and the other against the boss on the driven plate, adjacent springs, under relative motion between plate and flange, compressing and extending. Nipples are provided on both plate and hub spring mountings to keep the springs from becoming dislodged under centrifugal action.

A molded composition fabric disk is placed between hub flange and driven plate, riveted to the driven plate. In order to create the necessary friction, spring loaded bolts tie hub flange and driven plate together, the hole through the driven plate being enlarged to permit small relative motion between bolt and plate, and therefore between hub and plate.

A major feature in this design of clutch driven plate mounting is that frictional absorption characteristics are variable in assembly. It is therefore possible to use the same design and size of clutch plate on cars having different torsional vibration characteristics, by merely varying either the adjustment of the spring load on the friction lining, the weight of the cushion drive springs, or both.

From the servicing angle, the fact that it would be extremely difficult for the average service station to adjust a clutch plate damper in service following disassembly for any reason, has led the Long Mfg. Co. to adopt a flat rate charge for complete driven plate assembly replacement, by which a new driven plate already adjusted is installed if for any reason whatsoever a disassembly of this unit would otherwise be necessary, as for replacing lining, etc. These clutch plate replacements are marketed through the dealer organizations of the manufacturers of cars using this design of clutch.



The spring-cushioned and damped clutch



This building could be executed in any material but brick

Outdoor Service Under Cover

By Tom Wilder

We are contemplating the erection of a new and modern building for our business, which consists of a complete line of accessories, replacement parts, tires, and service and vulcanizing. We have in mind a two-story building set back from the street, allowing room on the front for our parking space for tire service under a shed. We have been advised that your company was in a position to furnish plans for most any type station and so that you may have some idea as to our location I am enclosing a rough outline of the property location and also giving the size of lot both ways. We would like to have a nice building and most of all a nice front with a shed that will present a nice appearance and show some distinctive features rather than the plain type commonly used by concerns of our type.—Lon Williams Auto Supply Co., Gadsden, Ala.

JUDGING from your sketch of your lot and its location, the longest side is really the front, as it faces the wide main thoroughfare. This frontage seems so long that it is unnecessary to hide it all behind a "shed" for tire service, so we have used part of it (40 ft.) for an accessory store, bringing it out flush with the sidewalk except for the corner, which is cut off to make filling station a little more accessible. Cutting off the corner will not spoil the store, however, but will rather improve it, making the display windows more showy and attractive.

The space under the shelter for tire service is a little bit awkward to drive into because of the pumps, or rather because of the cars that might be standing there, but with a passage between the pumps and plenty of space at the ends there should be no great difficulty except at rare intervals during a rush. If more service space is desirable the building could be set back from the side street 20 ft., making room for three more cars, but it is

our opinion that six spaces if used advantageously will keep quite a force busy on tire changes and repairs.

We are supposing that you intend to use the second floor of your building for the storage of replacement parts rather than car storage, for which it would not be well suited in its proportions. If car storage is contemplated an entirely different scheme will be necessary.

For parts storage the second floor can be arranged in the same manner as the first. Shelving will replace the tire shop and office, but the aisle will

extend through the center of both wings the same as on the first floor.

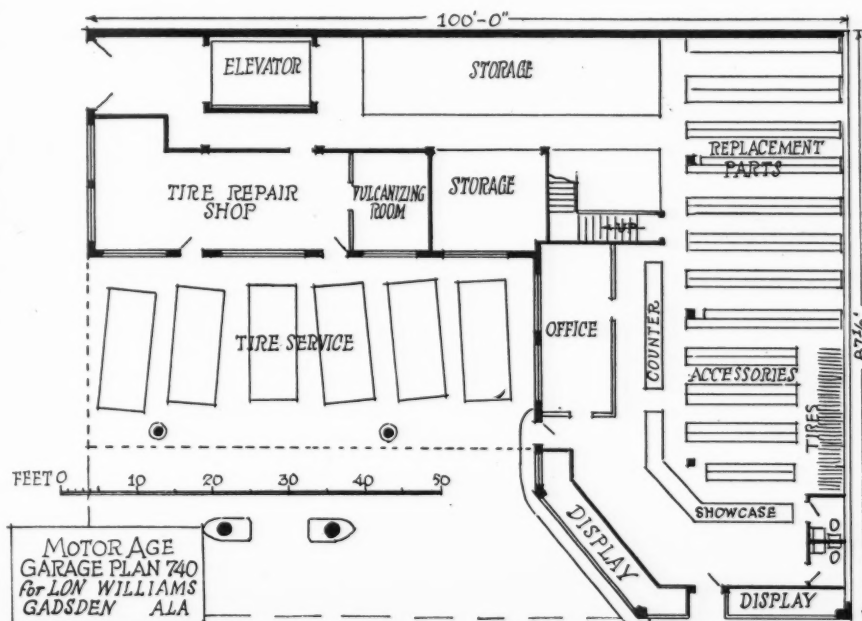
A smaller elevator than the one shown would handle your stock, but it is a good plan to have the vestibule large enough to allow a delivery truck being backed into it so that material can be unloaded directly onto the elevator, thus doing away with a platform. If you make large shipments, however, the platform would be better and would handle both incoming and outgoing packages. Extending tire service to the side would interfere with this arrangement but the space at the rear could be kept open until all other spaces were filled.

The canopy over the service space should have some glass in its make-up, not only to light the space itself but to let more light into the shop, which in spite of large windows would be rather dark.

The canopy over the service space should have some glass in its make-up, not only to light the space itself but to let more light into the shop, which in spite of large windows would be rather dark.

2

Part of the lengthy frontage in this layout is used for a corner accessory store, so shaped as to make the filling station more accessible



W H O I S T H E B O S S ?

(Continued from page 31)

The boss is the man the collector hates to discuss past due accounts with.

The boss is the man the sales manager does not want to talk to the sales force.

The boss is the man who must decide between the claims of rival finance companies.

The boss is the man the owners look to to stand between them and the finance company they owe.

The boss is the man the finance companies look to to collect the money owed them by owners.

The boss is the man who settles all quarrels between departments.

The boss is the man each department feels favors other departments.

The boss is the man all employees feel is overpaid.

The boss is the man the employees feel is responsible for their being underpaid.

The boss is the man who cannot raise the pay of a competent employee without offending all the non-producers.

The boss is the man owners call on when they need help to escape the consequences of a wreck.

The boss is the man who knows his departure slows up all departments.

The boss is the man who knows his force will try harder to escape carrying out his orders than they will to carry them out.

The boss is the man the stockholders blame.

The boss is the man who answers to the factory.

The boss is the man at the service of every owner.

The boss is the man who answers to the district representative.



The boss is the man who settles all quarrels between departments

The boss is the man the advertising solicitors harass.

The boss is the man the freight solicitors harass.

The boss is the man who represents the firm on all the tiresome occasions when prominent citizens make speeches.

The boss is the man who must be more of a public-spirited citizen than the bosses of rival concerns.

The boss is the man who organizes an association to combat reckless bidding on used cars—only to have one of his employees the first to break the agreement.

The boss is the man the salesman asks for authority to give more than the appraisal on certain trades.

The boss is the man who must always be a booster.

The boss is the man who is held responsible for the personal habits and failings of all employees.

The boss is the man who makes both men mad when he transfers a responsibility from one man to another.

The boss is the man who coordinates a dozen hostile departments into one smoothly running business.

The boss is the man who must instantly replace any employee who resigns with a better man.

The boss is the man who has infinite patience with employees.

The boss is the man who must give the employees credit for periods of good business.

The boss is the one man who must never lose faith in the car the firm sells.

The boss is the man who dreams and plans wonderful things for the business and when adverse conditions destroy the progress that has been made the boss is the man who makes the new start undaunted.

Motor Age Held First Chicago Show

(Continued from page 26)

Appliance Co., Chicago; Century Motor Vehicle Co., Syracuse, N. Y.; M. E. Cook, Chicago; Carse Bros., Chicago; De Dion-Bouton Motorette Co., Brooklyn; Dow Portable Electric Co., Boston; P. J. Dasey & Co., Chicago; Diamond Rubber Co., Akron, O.; Eastman Automobile Co., Cleveland; Eclipse Mfg. Co., Elmira, N. Y.; Electric Vehicle Co., Hartford, Conn.; Peter Forg, Summerville, Mass.; Fanning Mfg. Co., Chicago; Gong Bell Co., Easthampton, Conn.; Great Western Mfg. Co., LaPorte, Ind.; Garden City Mfg. Co., Chicago; B. F. Goodrich Co., Akron, O.; George D. Garland, Chicago; Goodyear Tire & Rubber Co., Akron, O.; The Hub, New York; Hewitt-Lindstrom Motor Vehicle Co., Chicago; A. B. Holson, Chicago; Hagerman and Hammerly, Chicago; Hoteling Bros., Chicago; India Rubber Co., Akron, O.; Janney Steinmetz Co., Phila.; Knox Automobile Co., Springfield, Mass.; Liberty Bell Co., Bristol, Conn.; Loomis Automobile Co., Westfield, Mass.; Larson Cycle Co., Chicago; Frank Mossberg & Co., Attleboro, Mass.; Milwaukee Automobile Co., Milwaukee, Wis.;

Milwaukee Cycle Co., Milwaukee, Wis.; Mobile Co. of America, New York; Midgley Mfg. Co., Columbus, O.; Moffett Vehicle Bearing Co., Chicago; Motor World, New York; Motor Age, Chicago; Munger Vehicle Tire Co., New Brunswick, N. J.; National Automobile & Electric Co., Indianapolis, Ind.; New York Belting & Packing Co., New York; Overland Mfg. Co., Chicago; Patee Bicycle Co., Indianapolis, Ind.; Pan-American Exposition, Buffalo; Porter Storage Battery Co., Chicago; K. Franklin Peterson, Chicago; Reading Automobile & Gear Co., Reading, Pa.; Schmitz & Co., Chicago; Sipe & Sigler, Cleveland; Richmond Automobile Co., Richmond, Ind.; Steam Vehicle Co. of America, New York; Shelby Steel Tube Co., Cleveland; Snell Cycle Fittings Co., Toledo, O.; Temple Automobile & Supply Co., Chicago; Turner Brass Works, Chicago; 20th Century Mfg. Co., New York; Twichell & Co., Chicago; E. R. Thomas Motor Co., Buffalo; Tucker & Co., Urbana, O.; Truscott Boat Co., St. Joseph, Mich.; Veeder Mfg. Co., Hartford, Conn.; U. S. Ball Bearing Co., New York; Wisconsin Wheel Works, Racine Junction, Wis.; C. R. Wilson Carriage Co., Detroit, Mich.; Woods Motor Vehicle Co., Woods, Waring & Co., Chicago; Waltham Mfg. Co., Waltham, Mass.

FAMOUS AUTOMOTIVE BROTHER ACTS

(Continued from page 35)

and the latter in 1924.

Frank and B. Perry Remy, brothers, were the first American manufacturers of ignition magnetos. They worked together in the development of the business which is now a part of the Delco-Remy Corp., a unit of General Motors.

Among the earliest automotive pioneers were Charles E. and J. Franklin Duryea. These brothers drifted from bicycles to

"horseless carriages" and their first car was built in 1892. The Duryea was a famous car in its day. J. Franklin later played an important part in the development of the Stevens-Duryea.

The Apperson brothers, Elmer and Edgar, also qualify for a place among the pioneers of the industry. They opened a machine shop in Kokomo, Ind., in 1888. In 1898 Elwood G. Haynes came to them with the plans of an automobile which he had designed and this resulted in the formation of the Haynes-Apperson Automobile Co. A few years later the Appersons withdrew from this company and formed another, of which they were the sole owners, known as Apperson Bros.

As mentioned before, F. E. and F. O. Stanley, of early steam car fame, were more than brothers—they were twins. The present Locomobile Co. was organized to build the first car they designed. They later started another company which built steam cars up until a few years ago.

The two Packard brothers, J. W. and W. D., laid the foundation of the present Packard Motor Car Co. The brothers evolved a number of original ideas which they incorporated in the first machine which they completed on Nov. 6, 1899. These features included the "H" shift gear lever, automatic spark control and even some of the present-day frame construction was covered by their early patents. The Packards interested George L. Weiss and W. A. Hatcher, who had been associated with Winton, and they went into partnership Dec. 30, 1899, forming the Ohio Automobile Company.

In 1902 the name of the company was changed to the Packard Motor Car Co. A number of Detroit men who were interested in making a connection in the automotive industry became associated with the Packards and the company was moved to Detroit in 1903. J. W. Packard became president of the reorganized company. Up until the time of their retirement several years ago, the Packards took an active interest in the



The five Studebaker brothers; left to right, Clement, Henry, Jacob Franklin, Peter Everst and John Mohler Studebaker

Co. These are the sons of Harvey S. Firestone, president. Two of the brothers, Harvey, Jr., and Russell, are already associated with their father, the former as vice-president of the Firestone Plantations Co. and a director of the Firestone Tire & Rubber Co., and the latter as vice-president of the Firestone Tire & Rubber Co. of California. Leonard and Raymond are still in school but will probably take their places in the organization upon completing their studies.

The Pope family has been presented in the industry by two sets of brothers. Colonel George Pope was treasurer of the old Pope Mfg. Co. and his brother, Edward W., was secretary. They were cousins of Colonel A. A. Pope, who founded the company and was at one time the leading bicycle manufacturer in the country. George Pope was for many years chairman of the show committee of the Association of Licensed Automobile Manufacturers in the Automobile Board of Trade, and later in the National Automobile Chamber of Commerce. He has been dead for some years. Edward is still living.

The other Pope brothers are Albert L. and Harold L., sons of Colonel A. A. Pope. The former once served as president of the Pope Mfg. Co., but has long since been out of the automobile business and is engaged in another manufacturing line. Harold was at one time general manager of the Toledo Motors Co. Later he was assistant general manager of the Wright Aeronautical Corp., and is now chief engineer of a refrigerator company in Michigan.

New Continental Develops 90 hp. at 2500 r.p.m

The 20-R is a new offering by Continental Motors Corp., Detroit, Mich. This engine has a bore of $4\frac{1}{8}$ and a stroke of $4\frac{3}{4}$. It develops approximately 90 hp. at 2500 r.p.m. It has a seven-bearing crankshaft, replaceable bearings and is of the overhead valve type.

development of the Packard Motor Car Co. As a tribute to J. W. Packard the directors of the Packard Motor Car Co. last spring caused to be erected a beautiful bronze tablet in the lobby of the Packard executive offices. W. D. Packard died Nov. 11, 1923.

In a few years we may expect to find four brothers holding important positions in the Firestone Tire & Rubber

READERS' CLEARING HOUSE

Questions Answered By C. Edward Packer

Pep for Hupp

I have a 1922 model Hupp four in excellent condition and wish to modernize the motor while reconditioning. What I had in mind was to remove about 4 or 5 in. of the intake manifold and raise the carburetor closer to the motor. Install lightweight pistons, remove some surplus stock from the connecting rods and weigh and balance same. The latter has been tried with success on a racing motor I have in mind. Also please advise me if a 1925 Hupp four camshaft is interchangeable with the 1922, or if you can suggest anything else that would reduce vibration and give smooth high-speed performance. I own and operate a repair shop and could do this with out much expense.—O. M. Goodman, c/o Goodman & Junker Garage, 2220 Wabash Ave., Terre Haute, Ind.

IN addition to what you have suggested, we would recommend that you plan on milling 1/16 to 1/8 in. from the cylinder head to raise the compression. Before doing this, however, check carefully to see that this will not interfere with the valve action. Should you find that you have removed too much material, the use of an extra cylinder head gasket would help out. We cannot say as to whether the cam shafts are interchangeable or not, but would suggest that you compare these at the nearest Hupmobile agency. You could probably get a higher maximum speed with smoother engine operation by going to a little lower gear ratio, such as 4 to 1, instead of the present 4.87 to 1.

A Missing Star

I have a Star Six that is 10,000 miles old and it misses at times. For days it will run fine and then develop a spell of missing. When the car is running well it will idle very well and has a great pick-up, etc., in other words, it seems to be mechanically in very good shape. I have tried everything on this and garage and ignition men are stumped. Have tried new carburetor, gasoline strainer, valve oilers. There seems to be no leak around the intake manifold and new vacuum tank inside has been installed. A rough spot in the road seems to start it missing. I thought the wiring might be broken, but this doesn't seem to be the case. I had the head off and there was no carbon to speak of, but I ground the valves anyhow. There are no weak valve springs, spark plug gaps are O. K. In fact everything seems to be all right. What do you suppose could be the trouble?—J. B. Ide, Grand Trunk Railway System, Orchard Lake, Mich.

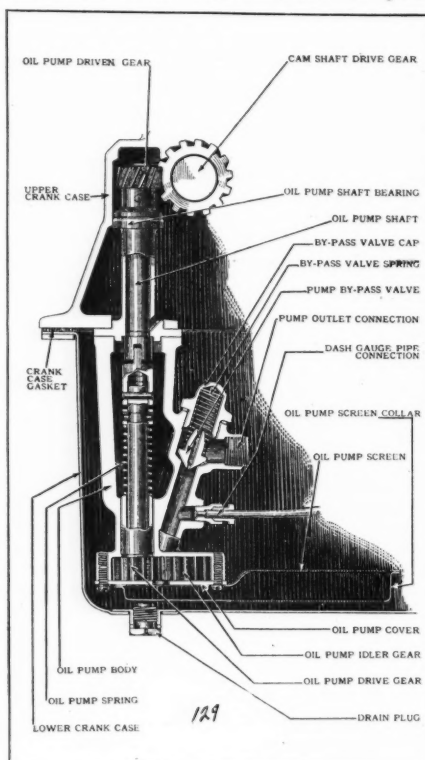
WE think that you are on the right track when you suspected that the wiring might be at fault. If the ignition men have checked this up, however, you will probably find that the

trouble is not in the wiring itself, but within some unit. We would suggest, accordingly, that you try a new ignition coil and also a new condenser, as trouble in these parts could give just the results that you have described.

Buick Oil Pump

I am a reader of MOTOR AGE and would like the following information. If possible, publish a picture of the Buick Four oil pump showing how it is connected. This particular car that I have here accumulates water in the crankcase and then the water freezes up and stops the pump. Is there any way to stop this trouble? I have heard of putting alcohol in the oil but I never tried it. Do you suppose this is a good remedy for the freezing of the oil pump?—John Enrico, Black Creek, Wisconsin, c/o Gehring Motor Co.

ALITTLE alcohol, say 1/2 pint, in your crankcase will do no harm and will prevent freezing of the water accumulation. Anything you can do to keep your engine hotter will reduce the amount of condensation in your



crankcase. When first starting up in the morning keep your radiator covered until the moto meter is up to the circle. Then when driving, keep your shutters so adjusted that the temperature remains there, and close your shutters as soon as you stop.

Flat Rates Discussed

I want to ask a number of questions in regard to the application of flat rate in an automobile electrical repair shop, handling repairs on generators, starters, magnetos, etc. Who furnishes uniforms and pays for the laundering of them?—Texas Reader.

AS a rule, the mechanics furnish their own uniforms or overalls and keep them in condition. In some few cases where an employer insists on clean overalls every morning, he may pay for the laundering of the overalls, but we do not know of any cases where the overalls are furnished to the men.

Does repair work for company jobs carry the same labor charge as for outsiders?

It is generally conceded that in order to make a success of flat rates, it is necessary to pay the men the same amount for doing company work, that is, repairing generators, starting motors and the like for stock, as though the work were brought in by a customer. An exception to this is sometimes made where special building or equipment maintenance and repair jobs are handled by the men in their spare time, rather than be idle during a part of the day. Doing this kind of work, they are usually paid on an hourly basis, at a rate considerably lower than they would normally receive. The reason for this is that they average considerably more than they would on the hourly rate, when working on the flat rate basis.

Is it customary to discount labor charge to fleet owners over regular price to individuals?

As a rule, the labor charge remains unchanged, but sometimes a discount is given to fleet operators and other service station proprietors for parts used in their repair work. Where a discount is given, the repairmen are usually paid at a reduced rate, in proportion with the discount. This, however, is generally only a small percentage of the work performed and as a rule we find that the men prefer to cooperate with their employer in getting this kind of work, for the increased volume assures a steadier and larger income, even though the price received per unit is probably a little less than if the work were being done for individual customers.

Do you publish a labor price list on the different magnetos?

We do not. The greatest field for magneto service is on trucks, and we know of no flat rate publications that are devoted to the truck field. You can probably get the recommended flat rate charges on different makes of magnetos by writing directly to the factory, as we find that almost without exception, the magneto manufacturers operate

[READERS' CLEARING HOUSE]

their authorized service stations on a flat rate basis.

If a job which has been done by a former employee comes back faulty under the guarantee, and has to be done over, should the employer or the employees stand the labor loss?

It is customary for the employer to stand the loss on a job of this kind where the employee who did the work has severed his connections with the company.

What is the usual percentage paid employees who are working on a flat rate basis?

The amount paid the employees depends to a great extent on how much equipment the employer furnishes and how steady his volume of business is. If there is limited equipment, and as a consequence it takes the mechanic a longer time to do the work, and if the volume of business is not steady, so that the boys have considerable idle time, it is customary to pay a higher percentage than might be paid in more efficient shops. We know of shops that pay the mechanics 33 1/3 per cent of the labor receipts, and it so happens that in these shops the boys are making more money per month than in some other shops with which we are familiar where the men are paid 40 per cent.

Please let us have your opinion on what we call mistreatment of the flat rate plan, where particularly profitable jobs such as Ford magneto recharging are not given to the boys who are on the flat rate basis, but are done by the floor men who are on a salary?

You will notice that the jobs that bring a high price and take a very few moments, usually require the use of relatively expensive equipment, and considerable electrical power to perform. Consequently, you will recognize that as your employer has to buy this equipment and pay the operating bills, that he is entitled to a higher revenue from that kind of work than from jobs that are mostly labor and therefore, this practice is not so unjust as it might first seem. However, as one successful employer puts it, "We give them the bitter with the sweet." In other words, the boys don't make so much on some jobs, but again they get highly profitable ones, which offset the "lean" ones, and we think that the employers who follow this plan will make out the best in the long run.

When Knocks Knock

When do you get a main bearing knock?—
Carl Kenton, Evansville, Ind.

A MAIN bearing knock shows up on a hard pull.

When do you get a connecting rod knock?

A connecting rod knock generally shows up when coasting or immediately after decelerating when the car is pushing the engine.

When do you get a piston slap?

Piston slap generally comes in when the car is under medium to light loads and running at 20 to 30 miles an hour.

When do you get a wrist pin knock?

A wrist pin knock will show up when

the engine is idling and also when running at moderate speed.

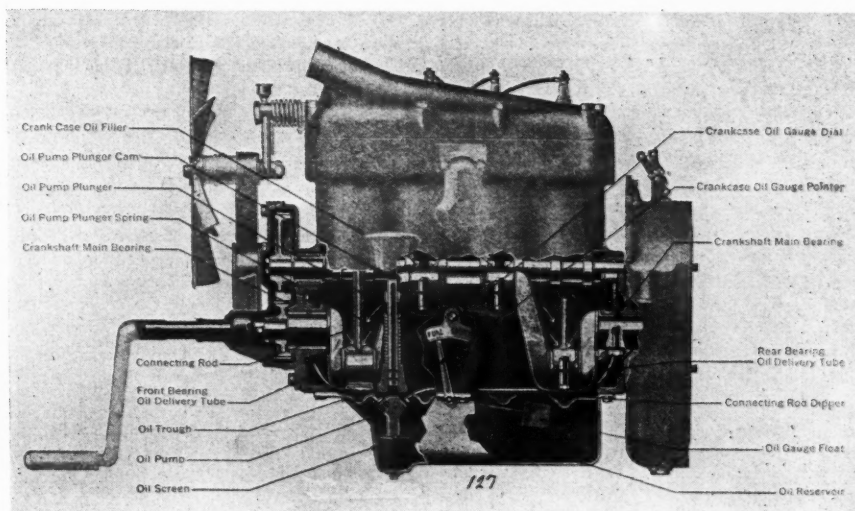
When do you get a knock caused by too much end play in the crankshaft?

The knock caused by end play is usually loudest when the engine is idling, or when pulling the car when it is not under much load.

Maxwell Main Bearing Replacement

I would appreciate information on main bearing replacement and end thrust adjustment on a 1922 Maxwell that has the two main bearing shafts.—Western Subscriber.

IN order to replace the main bearings on the 1922 Maxwell the engine should be removed from the frame. The front main bearing is a bushing and is pressed into place and held with a pin. It is necessary to have a reamer to finish this to size. The rear main bearing is of conventional bronze back construction and can be fitted in the usual way. The rear main bearing controls the end play of the crankshaft and when you replace these bearings you will be able to eliminate excessive end play.



How to Apply a Gun Metal Finish

Could you please give me a good formula on bluing gun barrels and other exposed parts? I have tried several methods, but failed.—
Frank Oliver, Sabinal, Texas.

THE following information is given you from the Scientific American Cyclopedia of Formulas:

Bluing: Gun Metal—1. Revolver. Sometimes the steel is heated to a light gray color, allowed to cool, and reheated until blue. (a) Get as high a polish as possible on the part which you want to blue. (b) Get an iron box made (thin sheet iron). If for the chamber only, say about 6 in. square; no need for rivets; just doubled together. (c) Pound up some wood charcoal; fill your box with it; put the box on a fire (any fire); stir up the charcoal now and again, till you find it is partly ignited. Now put your chamber

into the box of partly ignited charcoal; put it in about midway, so as to have as much heat at the bottom as at the top and sides. (d) Have handy a handful of dry powdered lime and a piece of tow or cotton waste; you will want a small pair of tongs, or other means of lifting your article out of the box. When you put the article in the box place it again on the fire. Now you must pay attention to it; lift it out about every ten minutes, and don't stand looking at it, but at once rub it with the tow dipped in the lime. As quickly as possible put back into the charcoal. Don't let your charcoal get too hot; when you see it is getting very hot, lift the box off the fire and stand it in any convenient spot; replace on fire again, if necessary. Now, the following is important: your chamber, in a short time, gets of a purple color, then bright blue. It is very tempting to leave off at this bright blue. Don't. This first blue is no good; at least no good where the article has to be rubbed and cleaned. Continue. The bright blue will depart, leaving the chamber nearly as before you put it in the box. Don't forget every 7 or 10 minutes to take out the article and rub

it with the tow and dry lime. It must not be kept long in the air. Presently you should obtain a rich dark blue. Finally, when blued, let it cool, then oil (any oil).

2. Gun Barrels. (a) To stain, dissolve 4 1/2 oz. of hyposulphite of soda in one quart of water, also 1 1/4 oz. of acetate of lead in one quart of water. Mix the two solutions and bring to a boil in a porcelain dish or stone pot. Clean the gun barrel free from grease, oil or varnish, warm the barrel, and smear with the hot solution, using a piece of sponge tied to a stick. When color develops, wash and wipe dry; finish with boiled linseed oil.

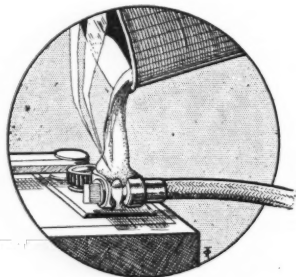
(b) Heat evenly in a muffle until the desired blue color is raised, the barrel being first made clean and bright with emery cloth, leaving no marks of grease or dirt upon the metal when the bluing takes place, and then allow to cool in the air. It requires considerable ex-

[READERS' CLEARING HOUSE]

SHOP KINKS

Ideas that have proved useful

TO keep battery terminals from corroding I clean them off with boiling hot soda water and then rinse them with boiling water and dry them carefully. Then by coating them with hot sealing compound, further corrosion is prevented.—Carol T. Stiers, Hatch, N. M.



Readers of MOTOR AGE are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published \$2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.

perience to obtain an even, clear blue.

Without Heat. 1. Clean every part carefully, and apply nitric acid, one part, diluted with 10 parts of water, until a blue film is produced on the surface. Then wash with warm water, dry, and wipe with linseed oil.

2. Solution of potassium ferrocyanide and water, 1:200; solution of ferric chloride, 1:200. Mix the two solutions and dip.

3. Antimony trichloride, 25 parts; nitric acid, fuming, 25 parts; hydrochloric acid, 50 parts. Apply with a rag and rub, until the proper color is obtained, with a piece of green oak.

Iron. Dissolve 140 grams of sodium hyposulphite in 1 l. of water, add a solution of 35 grams of lead acetate in 1 l. of water, and lay the perfectly white iron objects in the liquid.

Removing blue from steel. To leave it as clean as before coloring, try acetic acid or a solution of tin chloride (stannous chloride).

Steel. 1. Try the following: Scour the steel with a small quantity of a strong aqueous solution of soda, rinse in water, warm, and brush over with a solution of $\frac{1}{4}$ oz. of chloride of iron dissolved in 5 oz. of water, and let it dry; then apply in the same manner a solution of $\frac{1}{5}$ of oz. of pyrogalllic acid in 1 oz. of water; dry, and brush. Does not wear well without lacquering. The blue oxide is sometimes imitated

by using a thin alcoholic shellac varnish, colored with aniline blue or Prussian blue.

2. The articles to be blued should have their surfaces cleaned and polished. They may then be heated in fine, clean wood ashes to a temperature of from 500 to 600 deg., according to the depth of the color required. It is not necessary to watch the temperature, but simply to examine the articles from time to time to see that when cooled in the air they assume the proper color. They should then be immediately removed, and the operation is then completed.

3. To blue steel without heat, mix finely powdered Prussian blue with rather thin shellac; gently heat the steel and apply the varnish.

Easy Cure for Oil Leak

I would like a little help on a problem I have here. I have an International, four-cylinder truck that leaks oil badly from the rear main bearing. I had the bearing off and it seems O. K. Now this bearing has a pipe from it that runs down in the oil pan. The owner of the truck lost the filler cap off the filler pipe, so he put a cork in the filler pipe tight to keep the oil from splashing out. Could there be vacuum enough to force the oil out of the main bearing? I would like to know what you think of this and what I can do to stop the leak.—Brasted Bros., Almond, N. Y.

IT is not a vacuum in your crankcase that is forcing the oil out, but pressure developed by piston action and blow-by. The installation of a proper filler cap will probably overcome your entire trouble.

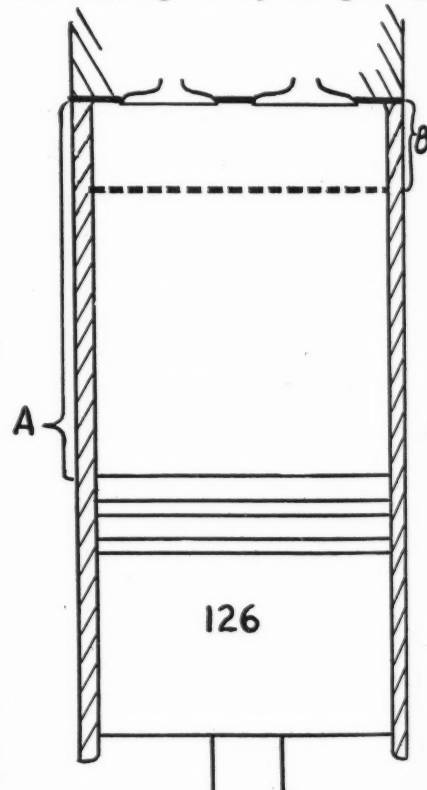
Calculating Increased Compression

What is the compression ratio of the Chevrolet engine in the Model K which was built in 1925? What will the new compression ratio of the same engine be after planing $\frac{1}{16}$ in. off the top of the engine block? $\frac{1}{8}$ in. off the top of the engine block?—W. Brunnick, 627 Potter Ave., Milwaukee, Wis.

THE compression ratio of the Model K engine is 4.3 to 1.

Not having the exact dimensions of this engine we can't tell you just what the ratio will be after planing, but we will tell you how to figure it. You have the car on hand and can very readily do this the next time you have the cylinder head off. Your problem is particularly easy because the cylinder head is absolutely flat, the only projections into the combustion chamber being the valve heads, and these are so slight that for all practical purposes they can be ignored. Carefully clean all carbon from the engine, then place any piston exactly on bottom dead center, measure and record the distance "A" as shown in the illustration, which should be to the top of the cylinder head gasket. Then bring your piston to top dead center and measure the distance "B" which like "A" should be measured to the top of the cylinder head gasket. You should use an ac-

curate steel rule in this work. We must now find the total volume of the cylinder as measured by "A" and the total volume of the combustion chamber as measured by "B." You will recognize that "A" is the sum of the piston displacement plus the volume of the combustion chamber. To find the volume of "A" multiply the bore, which is $3 \frac{11}{16}$ by itself, then multiply that by .7854, which will give you the square inches on the head of the piston. Multiplying the square inches by the distance "A" will give the cubic inches of the combustion chamber, plus the displacement of one cylinder. In a similar manner you can find the volume of "B," but this time it is merely necessary to multiply the area of the piston in square inches by the distance "B," which will give you the number of cubic inches in the combustion chamber. Dividing "A" by "B" gives the

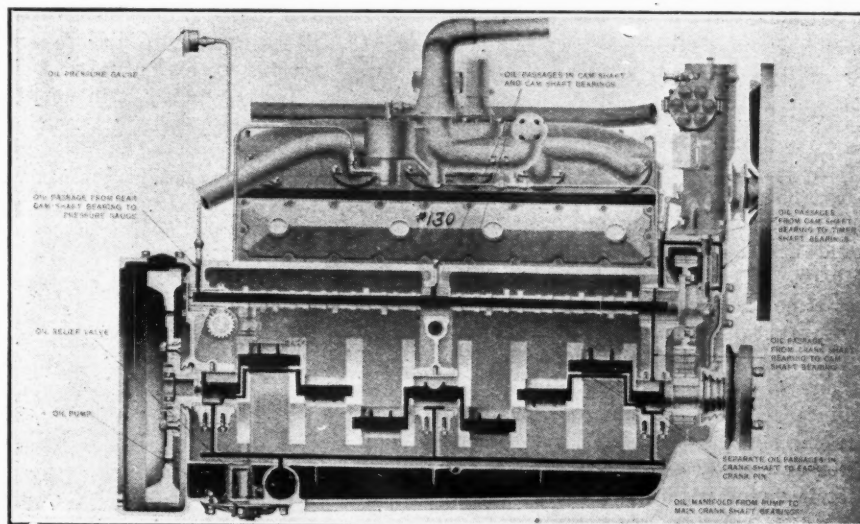


compression ratio. Now you will appreciate that as the height of "B" is reduced by $\frac{1}{16}$ in. or $\frac{1}{8}$ in., that the volume will be considerably reduced and consequently your ratio will increase.

Servicing the Chevrolet Clutch

Please give me a diagram of the clutch used in the 1926-27 Chevrolet and give instructions for installing new plates. What causes the squeaking in the clutch when the clutch is held out, and how can you remedy this?—Wisconsin Reader.

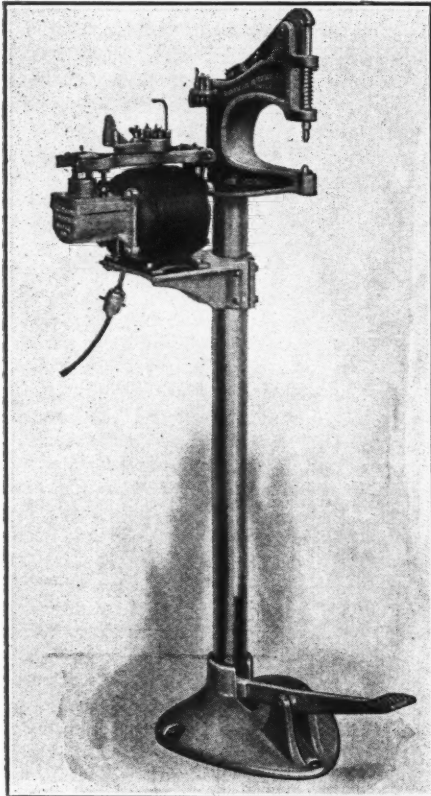
TO remove and disassemble the clutch it is necessary to take off the transmission support and disconnect universal at rear of transmission. Then it is merely necessary to take out the eight cap screws which hold the



The Latest in Equipment for

Davis Brake Machinery

A COMBINATION brake lining countersinker and riveter machine has just been placed on the market by the G. S. Davis Brake Co., Sedgley Ave. below Diamond St., Philadelphia. It is equipped with a No. 5



cutter for rivet $\frac{3}{8}$ head, $\frac{5}{32}$ shank; one No. 6 cutter for rivet $\frac{3}{8}$ head, $\frac{3}{16}$ shank; standard $\frac{1}{4}$ hp., 110-volt, 60-cycle motor. The price is \$68.75 complete. The countersinker unit alone is priced at \$46.50, while the riveter lists at \$22.50.

Speedometer Service

COMPLETE speedometer servicing equipment is now being offered by the F. W. Stewart Manufacturing Corp., 358 W. Huron St., Chicago, Ill. The equipment includes not only a test stand and complete tools, but also a full line of replacement parts. The test stand is a calibrating machine, in appearance much like a radio cabinet, with a standard calibrated speedometer in one dial face in the front of the cabinet. On the top may be mounted any make of speedometer, as various types of connections are provided. An electric motor within the cabinet turns

both the speedometer to be tested and the standard unit so that they can be checked one against the other. Fourteen tools complete the service assortment. Some of these are special tools for various makes of

speedometer and some of them have been especially designed so as to allow their use on all makes. Special clamps are provided for attaching or assembling the head pieces of all of the best known makes of speedometers and there is also a vise clamp for attaching end pieces to multicoil cables. The balance of the tools includes a small anvil, special wrenches, and miscellaneous essential items.

In addition to this equipment, 60 glass jars are neatly arranged in a rack. From 10 to 20 small parts are kept in each jar. The larger pieces are kept on special racks. Still another type of rack holds the multicoil housings and inside drives on the wall of the service station. The complete equipment sells for \$316.89. It is also possible to purchase the service equipment and parts for any one make of speedometer.



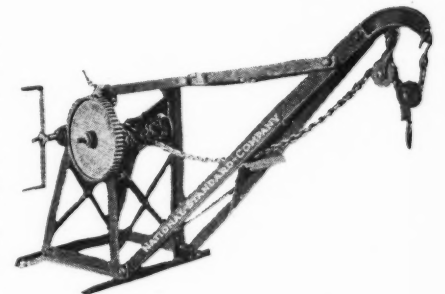
Elvo Auto Lift

THE Elvo auto lift, a product of the Birmingham Machine & Foundry Co., Birmingham, Ala., does not require any pits or racks and it is installed by simply placing it in position and making the necessary connections to the electrical circuit. It can be used either indoors or outside and comes fully equipped with motor, gear guards,

stop blocks and sliding grease pan. The vehicle to be raised is driven on the tracks of the lifts and can be raised to any desired height within the limits of the machine. Dimensions: 10 ft. 9 in. wide and 17 ft. long.

Standard Wrecking Crane

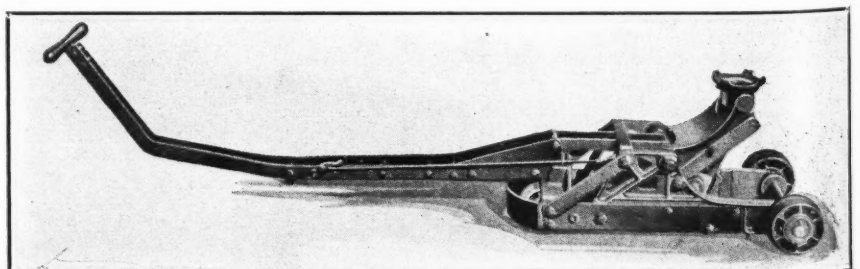
THIS is a one-man outfit with a boom that may be adjusted by one man to 10 different working heights. The swinging pulley permits of pulling from any angle. The chain may be



detached from the head and used as a winch, saving the expense of additional equipment for this purpose. The model here described and illustrated is No. 93. It is manufactured by the National Standard Co. of Niles, Mich.

Marquette Truck Jack

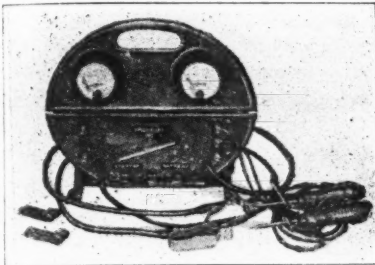
THIS model G jack is designed for vehicles weighing up to 12,000 lb. A 25 lb. pressure on the handle lifts a ton on the saddle. The jack has a multiple stroke, planetary gearing with cut teeth and two reductions. The handle is adjustable to different lengths, and roller bearings are used on the wheels in addition to a ball thrust bearing on the single rear caster. Tread of wheels center to center, $15\frac{1}{2}$; lifting range is from 5 in. low to $17\frac{3}{4}$ in. raised; weight is 243 lb. Dealer's net price, \$105. This jack is made by the Marquette Mfg. Co., St. Paul, Minn.



the Automotive Service Shop

Ajax A-30 Trouble Shooter

BY means of the test clips, prods and meters, the entire electrical system of the car can be carefully checked over with this trouble shooter. The trouble shooter is also suitable

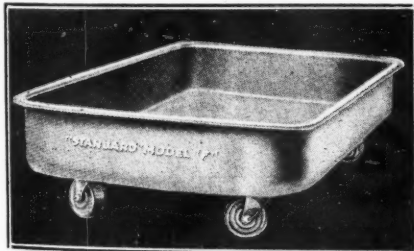


for making voltage, cadmium and high-rate discharge tests for the purpose of determining the condition of storage batteries. Should it be desirable to mount the equipment on the wall, two brackets are furnished which make wall mounting an easy matter.

The Ajax Electric Co. is located at Kalamazoo, Mich., and sells this outfit at \$45, complete with leads and test points as shown.

Tool Tray and Oil Pan

THIS tray, which serves the double functions indicated above, is mounted on roller casters. It will hold



10 qt. of oil. Length is 25 in., width 12 in., depth 2½ in. The height from floor is 4½ in. It is made by the National Standard Co. of Niles, Mich.

Snap-On Wrenches

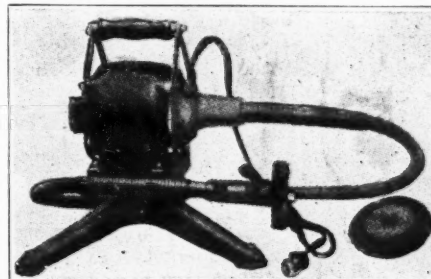
SEVERAL new items have been added to the line of equipment produced by the Snap-on Wrench Co., Chicago. Among these items are included the Blue Point gear puller, Blue Point right angle wrench set, Blue Point carburetor and ignition wrench set, Snap-On valve adjuster and the Boxocket. The latter is a box type of wrench which is made in 12 sizes varying from 7/16 in. to 1¼ in. The valve clearance adjusting tool is designed for adjusting

tappet clearance on all overhead valve type engines and is provided with five different size sockets. This tool is priced at \$4.80. Price on the other tools is as follows: Gear puller, \$19.15; carburetor-ignition set, \$6.00.

Flexible Shaft Buffers

WEIDENHOFF flexible shaft buffers and grinders are for use in drilling, buffing, grinding, removing paint, polishing nickel, simonizing, cleaning batteries and roughing tires and tubes.

The hand piece has a double row SKF ball bearings and the Morse taper



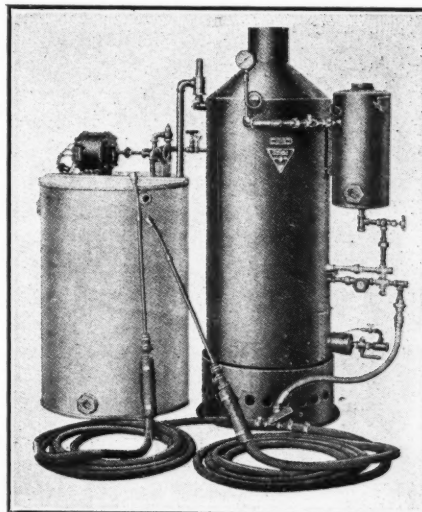
hole will take any drill up to ¼ in. Because of flexibility and small diameter it can be used in tight places. Motor is a ¼ hp., 1750 r.p.m., heavy duty type. The buffers are provided with a carrying handle and mounted on a swivel base.

List price No. 920, \$78.50.

Made by Weidenhoff Products, 4352 W. Roosevelt Rd., Chicago.

Washing and Cleaning Unit

THE Tridex Equipment Co., Dallas, Tex., is producing the improved model F outfit for cleaning the various



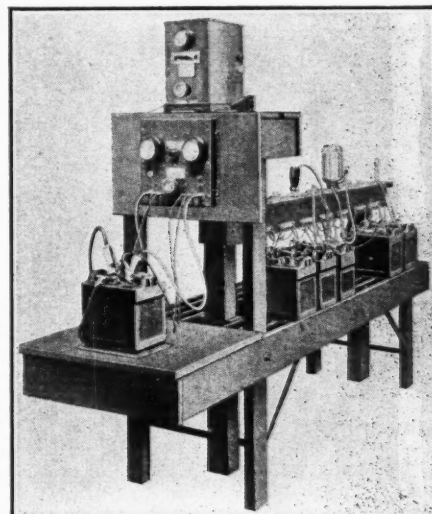
chassis units and washing the car. The cleaning spray is heated before leaving the gun. Both cleaning and rinsing spray can be produced at temperatures from 110 deg. to 185 deg. The outfit requires a floor space of 2½ ft. by 5½ ft.

Marquette Car Washer

THIS car washing gun, a product of the Marquette Mfg. Co., St. Paul, Minn., is for use with an air compressor and the regular city water supply. It is of solid brass construction and an adjustment provides either a fine mist or a heavy spray. A wall hanger is included. Price, \$36.

B & R Battery Servicer

THE Burton & Rogers Mfg. Co., Boston, Mass., has just placed on the market a new line of battery servicers. The model A combination is capable of charging 15 average batteries



at one time and the equipment includes a Senior Capacitester, charge test voltmeter and prod and model 16-S bench. The price of this outfit is \$275. When other than the standard 110, 220-volt, 60-cycle current is used the price is higher. Model B combination, priced at \$202 is equipped with Tri-five charger and selective Capacitester.

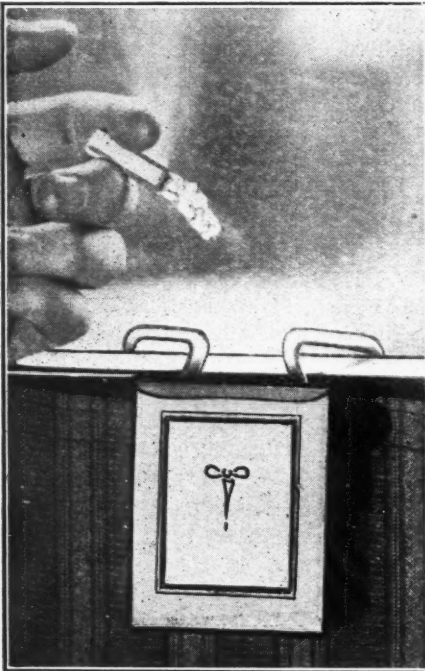
Adjustable Work Stand

THIS No. 29 stand is of all-metal construction and is easily and quickly adjusted. The height lowered is 11½ in., raised 17½ in. Weight per stand is 17 lb. Sold in sets of four. It is made by the National Standard Co. of Niles, Mich.

The Newest in Accessories

Windowway Ashtainer

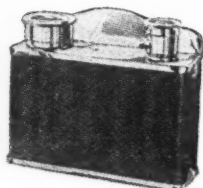
A CONVENIENT little ash tray known as Ashtainer and selling at 50 cents has been brought out by the Illinois Metal Products Co. of Fulton, Ill. This Ashtainer is supplied with two adjustable rubber-covered brackets which make it easy to attach to the in-



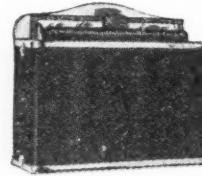
side of the car on the windowsill. These Ashtainers are available in many attractive color combinations. Not only are they very easy to attach and handy to use, but they are extremely simple to empty.

Smoking and Vanity Sets

FINISHED in brown mahogany, these sets will harmonize with the interior of any car. No. 750 smoking



set is equipped with a Casco cigar lighter and an ash receiver. No. 760 Vanity Set is equipped with a French plate leather-covered mirror and leather-covered memorandum book and pencil. The sets may be sold separately or in combination. They are easily installed and the list price for smoking set is \$5, vanity set \$4. These acces-



sories are made by Connecticut Automotive Specialties Co., Bridgeport, Conn.

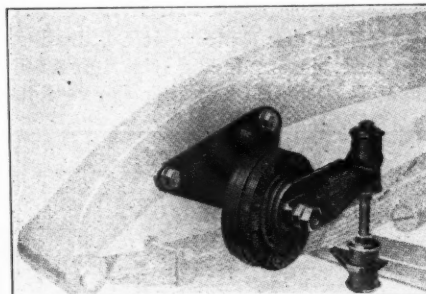
Electric Welded Side Chains

THERE has been some demand for electrically welded side chain on pneumatic truck tire chains, and the American Chain Co. of Bridgeport, Conn., are offering this at a slight additional cost. Where it is desired to use this type of side chain instead of the weldless "Lock-Link" this can be supplied at slight additional cost.

List price—32 by 4½, \$9.50. The price ranges from there to the 38 by 6 size at \$13.25.

Wahl Spring Brake

THIS shock absorber, for Chevrolet, Chrysler 50 and 52, Dodge 4, Essex, Oldsmobile, Pontiac, Star and Whippet, has a two-way control, which checks both the upward and downward movement of the car body, preventing bottoming as well as bouncing. The brake band inside the drum rotates as the arm moves up or down. It expands in proportion to the severity of the blow imparted to the axle by a bump or hole in the road. It is provid-



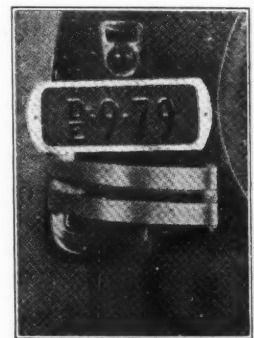
ed with a fixed connection from the drum to the axle, the steel rod being attached to the axle by a plate which fastens to the spring clip or U bolt. This brake has no metal bearings nor any metal-to-metal contact and therefore requires no lubrication. It is sealed against water and dirt and is self-adjusting to changes of car load and wear. List price, \$22 for a set of four. This brake is manufactured by Wahl Co., 1818 Roscoe St., Chicago.

Elastic Stop Safety Nut

THE elastic stop safety nut locks both through metallic friction between threads and through brake action on the fibre ring. This ring is smaller in diameter than the size of the bolt and is not threaded. As the bolt goes through the metallic part of the nut it is forced up against the fibre which causes downward pressure on the bolt and the reverse or upward pressure on the nut. This results in a total elimination of play between nut and bolt. This item is manufactured by the American Gas Accumulator Co., Graybar Bldg., New York.

License Plate Holder

THIS item is finished in aluminum, Duco, black or nickel and is highly ornamental. It is manufactured by



the Davis Company, 244 W. Fayette Street, Syracuse, N. Y.

"No-Tarnish"

NO-TARNISH is a liquid that forms a colorless, transparent, flexible and non-porous coating, which preserves the lustre of nickel plating, brass, silver, copper, aluminum, German silver, steel and all other metals. Can be brushed on by an amateur or sprayed or dipped. Four oz., enough to cover 16 sq. ft., list price, \$1. This item is being placed on the market by No-Tarnish Products Corp., 6 Varick St., New York City.

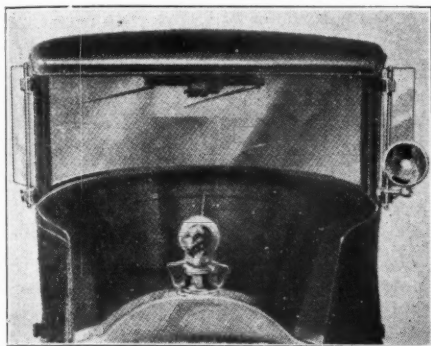
M & H Horn

THIS horn is manufactured by M & H Manufacturing Co., Waterbury, Conn., and the sound of the horn is capable of penetrating through noise by reason of a short wave length. All working parts are enclosed. List price, \$12.50 each; full nickel, \$13.50.

Offered the Automotive Trade

Closed Car Side Wings

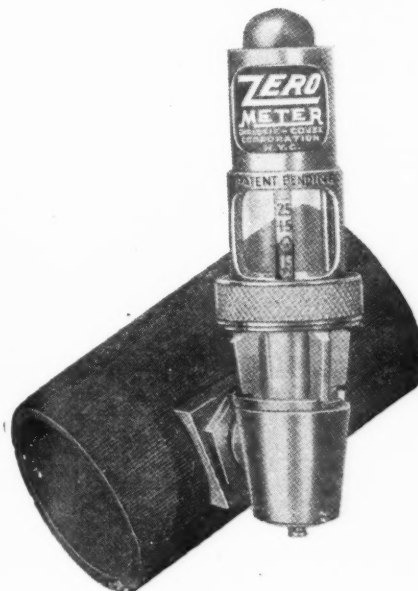
A NEW product of the Tonneau Shield Co., Inc., 47 West 63rd St., New York City, these wings are fastened to the door hinges without the drilling of holes. To install, simply remove hinge pin, fit bracket over



hinge, tighten screws, replace hinge pin, adjust wing to proper height and slant. Can be set at any angle. These are claimed to stop back draft when driving with front windows open. List price \$25.

Zerometer

A CONSTANT and accurate check upon the amount of alcohol present in the cooling system is provided by Zerometer. Made of aluminum



throughout and permanently attached to the upper radiator hose next to the motor by a patented clamp nut, this device is light, non-corrosive and well cushioned. It is installed below the

normal water level and registers the effect of additional alcohol after allowing 2 min. for mixing with the motor running. It can be taken apart easily or taken off for summer storage. List price, \$3.50. Zerometer is made by Christie-Couse Corp., 2928 Migel Pl., Bronx, New York City.

Vacuum Brush

THIS item commonly known as the O.K. Vacuum brush and manufactured by the O.K. Machine Co., Fort Wayne, Ind., has a new feature floor handle attachment used for cleaning rugs or for similar use. This attachment is quickly installed or removed. This is furnished with both rotary motor-driven brush and a straight brush.

Odometer for Ford A

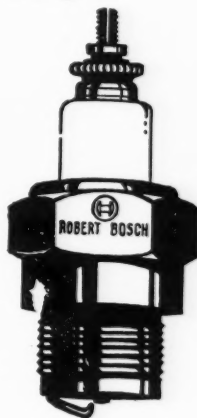
A NEW product just announced by the Veeder Mfg. Co., Hartford, Conn., is the Odometer for Ford Model



A cars and trucks. Without the hub this lists to the trade at \$17.

Bosch Plug

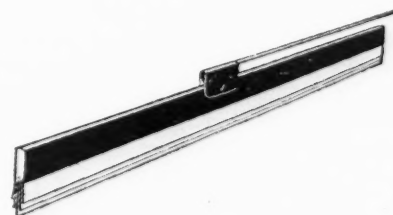
STEATITE" an artificial stone developed by Robert Bosch Magneto Co., Inc., of Long Island City, N. Y., is used for the insulator in the new Pyro-Action Bosch spark plug. This insulator is practically unbreakable and absorbs sufficient heat to burn excess oil and carbon deposit which might otherwise reduce the efficiency of the spark. The electrodes on this plug are made from a metal alloy that resists corrosion and burning and as consequence but rarely



needs adjusting. While the plug sells for \$1, its performance and long life justifies the price.

Trico Rubber Blade

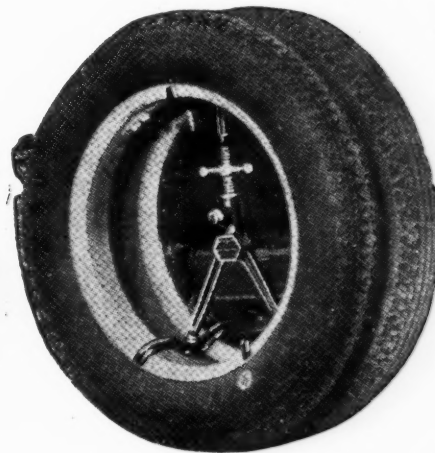
THIS windshield wiper blade is made of 5-ply rubber and constructed in pyramid design so that every time the blade reverses three of the rubber surfaces are in contact with



the glass. It fits all windshield cleaners of the suction type. List price of blade 35 cents. Trico rubber blade is manufactured by Trico Products Corp., Buffalo, N. Y.

Duplex Spare Tire Carrier

THIS carrier is for balloon tires, being a complete unit operating entirely by easy turn of the handle and pieces cannot shake loose or rattle. It is easily put on or removed in a minute. It is equipped with a high grade cylinder lock integral with the fork of the carrier which securely locks both tires. Finished in black enamel with polished lock handle and stud. Type B for all balloon tires on



demountable rims. List price \$10. Type A for high pressure tires and 4.40, 4.75 and 4.95 balloons on 21 in. demountable rims, list price \$6. Duplex spare tire carrier is a product of Tripp-Secord & Co., Detroit.



"As Only Motor Age Can Dish Them Out"

S EATTLE, WASH.—Your paper is like good whiskey, it improves with age. And since moving to the Quaker City, it has helped it a wonderful lot. But now for a little tip, give us more racing dope. I can't attend the races and I sure like to keep posted on all the fine points as only the MOTOR AGE can dish them out.—*Lee L. Butterfield.*

You Should Know a Few Things About Us

B URDETTE, IOWA.—I like all departments of MOTOR AGE as they are all good. I have been a reader of MOTOR AGE 14 years.—*John Leslie.*

A Current Opinion

M ITCHELL, S. D.—Your sales talks and electrical wiring diagrams are the most interesting features of MOTOR AGE to me.—*Herman G. Northrup.*

A Liebeslied from Loebenstein

D ETOIT, MICH.—You folks have a great book and I sure would miss it. Great success to you.—*Harry Lobenstein.*

And Accurate, Too

M ULLINVILLE, KANS.—We find the Question Box and Speed Records interesting.—*Tanner & Harp.*

Hokay Has His

I NDIANAPOLIS, IND.—MOTOR AGE is O. K. just as it is, we need it all.—*Harry L. Andrews.*

Crom Likes the Whole Loaf

P IERSON, IOWA—I am most interested in the new features and Readers' Clearing House.—*Alvin Crom.*

It Is Good, Isn't It?

L INDSAY, OKLA.—We like the repair department.—*Pioneer Garage.*

L ETTERS to the editor from those whose "attention has been called"; from those who point with pride and those who view with alarm, from those who are easy to please and those who are hard to please; from those who are happy when they find a good thing and those who are happier when they find something they consider not so good; from those who boost and those who knock; from those who see the doughnut and those who see the hole; in other words, Dear Subscriber, from you and you and you—as well as from the man who borrows your copy of MOTOR AGE or reads it over your shoulder.

We Furnish Material for a College Course

M ADISON, WIS.—In the Dec. 22 issue of MOTOR AGE you had an article on "Putting the Microscope to Time Selling," by George T. Hook. Does your magazine have a reprint service which could furnish me with reprints of this article?

We are constantly making use of



articles in magazines and bulletins in connection with our Extension classes and correspondence-study courses. In case reprints are not available, would your magazine object to having this article copied from it and sent out to students, in mimeographed form?—*C. L. Dedrick, Department of Economics and Sociology, University of Wisconsin.*

The Selling Features Sell Themselves

A BERDEEN, WASH.—I like the motor car sales and service features of MOTOR AGE.—*Carl B. Quien.*

O. K. Means A1

B LOOMFIELD, N. J.—MOTOR AGE is O. K.—*E. M. Smith.*

The Welcome That is Always Out for M. A.

P ILOT MOUND, MINN.—I have been a silent reader to MOTOR AGE since 1921, and have not missed a single copy after that date. Same has been arriving on Saturday. But, since published at Philadelphia, gets here on Mondays, sometimes Tuesdays. Nevertheless, MOTOR AGE is welcomed whenever it comes.—*A. T. Olness.*

Faultlessness is Next to Perfectness

M USKEGON HEIGHTS, MICH.—I have no fault to find with MOTOR AGE.—*C. Dumas.*

It Certainly Is

B ROOKLYN, N. Y.—I like all of MOTOR AGE and read every issue from cover to cover. It certainly is great on new car specifications.—*G. N. Davis.*

A Friendly Guide

M ONONGAHELA, PA.—MOTOR AGE is very interesting and instructive to us in our business.—*J. T. Huston.*

Exhaustive, Not Exhausting

S PRINGFIELD, KY.—The departments on research are most interesting to me.—*Charles S. Gregor.*

Underscore News

I NDIANAPOLIS, IND.—I like the general trade news found in MOTOR AGE.—*Wilbur Johnson.*

A Peek Convinces

T RILBY, FLA.—We like the news of the industry and trade found in MOTOR AGE.—*Emory M. Peek.*

Let's Hope the Buyers Do, Too

S EATTLE, WASH.—I find the mechanical features on new cars most interesting.—*George H. Tucker.*

Prices, Weights and Equipment of Current Passenger Car Models

Important Changes in Specifications and Price Tables since last issue:

AUBURN 1928 Prices

CHRYSLER "52 & 62" Price Changes

ESSEX 1928 Prices

MOON "6-60" 1928 Body Models and Prices

Passengers and Model					F.O.B. Price	Doors	Shipping Weight	Standard Equipment
CADILLAC "341"								
"Fisher"								
2-4p. Roadster					\$3350	2	4440	aeghlmprrx
5p. Phaeton					3450	4		aeghlmprrx
5p. Sp. Phaeton					3950	4		Beghlmprrx
7p. Touring					3450	4	4665	aeghlmprrx
2-4p. Coupe					3295	2	4700	aeghlmprrx
2-4p. Conv. Coupe					3495	2	4595	aeghlmprrx
5p. Coupe					3495	2	4730	aeghlmprrx
5p. Sedan					3595	4	4845	aeghlmprrx
5p. Town Sedan					3395	4	4845	aeghlmprrx
7p. Sedan					3695	4	4935	aeghlmprrx
5p. Imp. Sedan					3745	4	4880	aeghlmprrx
7p. Imp. Sedan					3895	4	5065	aeghlmprrx
5p. Imperial Cab					3745	4		aeghlmprrx
7p. Imperial Cab					3895	4		aeghlmprrx
"Fleetwood"								
5p. Sedan					4095	4		aeghlmprrx
5p. Sedan Cab					4095	4		aeghlmprrx
7p. Sedan					4195	4		aeghlmprrx
7p. Sedan Cab					4195	4		aeghlmprrx
5p. Imperial					4245	4		aeghlmprrx
5p. Imperial Cab					4245	4		aeghlmprrx
7p. Imperial					4445	4		aeghlmprrx
7p. Imperial Cab					4445	4		aeghlmprrx
... Town Cab Con					5000	4		aeghlmprrx
... Town Cab Con					5500	4		aeghlmprrx
... Lim Bro'm Con					5500	4		aeghlmprrx
CHANDLER								
"Big Six"								
7p. Touring					\$1695	4	3360	ahmnw
5p. Met. Sedan					1525	4	3570	ahjmnw
4p. Coupe					1675	2	3435	ahmn
3p. Ctry. Club					1675	2	3435	ahmn
7p. Sedan Del.					1795	4	3725	ahmmtuv
5p. Royal Sed.					1725	4	3645	ahmnoptx
... Cabriolet								
"Spec. Six"								
5p. Touring					995	4	2475	ah
5p. Sportster					1165	4	2650	ahw
5p. Sedan					995	4	2685	ah
3p. Coupe					1055	2	2620	ah
5-p. Invin. Sed.					1085			
2-4p. Coupe					1155	2	2650	ah
... Cabriolet					1215			
"Roy. St. 8"								
7p. Touring					1935	4	3645	ahjmnwpx
4p. Coupe					1935	2	3610	ahmnoptx
4p. Ctry. Club					1995	2	3610	ahmnoptx
5p. Sedan					1995	4	3760	ahmnoptx
7p. Sedan					2195	4	3870	ahmnoptx
3-5p. Cabriolet								
CHEVROLET								
2p. Roadster					495	2		dr
5p. Touring					495	4		1r
5p. Coach					585	2		dhr
2p. Coupe					535		2235	
5p. Sedan					672	4		dhr
2-4p. Cabriolet					662	2		dhr
5p. Imp. Land					718	4		dhr
CHRYSLER "52"								
5p. Touring					\$ 695	4	2130	ahr
2-4p. Roadster					670	2	2075	ahr
2p. Club Coupe					670	2	2205	ahr
5p. Sedan					670	2	2300	ahr
5p. Sedan					720	4	2375	ahr
2-4p. DeL. Coupe					720	2	2240	ahr
5p. De L. Sedan					790	4	2375	ahr
"62"								
5p. Touring					1095	4	2740	aghnr
2-4p. Roadster					1075	2	2705	aegharw
2p. Bus Coupe					1035	2	2780	aghnr
5p. Sedan					1095	2	2855	aghnr
5p. Sedan					1175	4	2905	aghnr
2-4p. Coupe					1145	2	2855	aghnr
5p. Land. Sedan					1235	4	2940	aghnr
"72"								
2-4 Sp. Roadster					1595	2	3005	aeghlmprrx
4p. Coupe					1595	2	3160	aghmrux
2-4p. Coupe					1545	2	3130	aghmrux
5p. Roy. Sedan					1595	4	3225	aghmrux
5p. Town Sedan					1695	4	3270	aghmrux
2-4p. Con't Coupe					1745	2	3100	aghmrux
5p. Crown Sedan					1795	4	3235	aghmrux
... Town Cab					3595			
Imp. "80"								
2-4p. Roadster					2795	3		aeghlmprrx
5p. Sedan					2345	4	4185	aeghlmprrx
7p. Sedan					3075	4		aeghlmprrx
5p. Town Sedan					2995	4	4140	aeghlmprrx
7p. Sedan Lim					3495	4	4285	aeghlmprrx
CUNNINGHAM								
"V-7"								
7p. Touring					\$6650	4	4600	Ceghlkmaprrx
4p. Sp. Touring					6150	4	4500	Ceghlkmaprrx
4p. Coupe					7600	2	4700	Ceghlkmaprrx
6p. Limousine					8100	4	5000	Ceghlkmaprrx
DAVIS "99"								
4p. Polo Rdster					\$1885	2	3095	aeghlmprrx
5p. Touring					1885	4	3125	aeghlmprrx
4p. Coupe					1885	2	3145	aeghlmprrx
5p. Emp. Sedan					1885	4	3275	aeghlmprrx
DIANA "St. 8"								
5p. Phaeton					\$1695	4	3100	agmn
5p. Roy. Roadster					1795	2	2995	agmnw
5p. P.B. Rdstr					1895	2	2995	Bgmnw
5p. Cab. Rdstr					1995	2	3160	agmn
5p. Co. ap. Rdstr					2195	2	3160	agmn
5p. 4d. Sedan					2095	4	3275	aghlmprrx
5p. 2d. Sedan					1795	2	3170	aghlmprrx
DODGE BROS.								
"124"								
5p. Touring					\$795	4	2581	Ar
2p. Roadster					795	2	2454	Ar
2p. Sp. Roadster					845	2	2530	Der
5p. Sp. Touring					845	4	2679	Der
"128"								
5p. Sedan					875	4	2600	Aehr
5p. DeL. Sedan					910	4	2609	Aehrt
2p. Coupe					855	2	2428	Aehrt
4p. Cab. Rdstr					955	2	2463	Behr
"Victory 6"								
2-p. Coupe					1045			
2-4p. Coupe					1095			
5-p. Brougham					1095	4		
... DeL. Bro'm					1170			
... DeL. Sedan					1170			
"Senior"								
4p. Cab. Rdstr					1595	2	3353	Cehmrux
5p. Sedan					1495			ehr
5p. Sedan					1595	4	3412	Cehmrux
4p. Coupe					1570	2	3315	Cehmrux
du PONT "E"								
4p. Roadster					\$2800		3700	afghkmaprrx
5p. Touring					2800	4	3850	afghkmaprrx
4p. Coupe					3200		3850	afghkmaprrx
5p. Sedan					3400		4100	afghkmaprrx
5p. Con. Sedan					3750	4	4100	Bfghkmaprrx
"F"								
Phaeton					\$3950			
Sp. Phaeton					4500			
... Sedan					4050			
5-p. Limousine					4265			
7-p. Sedan					4265			
7-p. Limousine					4475			
... Conv't Sed					4775			
DURANT								
"55"								
... Coupe					\$ 795	2		a
5-p. Sedan					795	2		a
5-p. Sedan					805	4		a
"65"								
5-p. Touring					795	4		aghmn
2-4p. Sp. Rdster					1025	2		Beghlmprrx
2-4p. Coupe					975	2		aghmn
5-p. Sedan					975	2		aghmn
2-4p. Collap. Cab					1045	2		aghmn
5-p. Sedan					1075	4		aghmn
5-p. Town Sedan					1175	4		Beghlmprrx
"75"								
5-p. Sedan					1385	4		aghmn
5-p. Town Sedan					1550	4		Beghlmprrx
ELCAR								
"6-70"								
4p. Roadster					\$1295	2	2580	ahnr
5-7p. Touring					1295			ahnr
4p. Brougham					1295	2	2670	ahnr
5p. Sedan					1295	4	2750	ahnr
"8-78" Std.								
2-4p. Roadster					1395	2		ahnr
5p. Touring					1395			ahnr
2-4p. Coupe					1395	2		ahnr
5p. Sedan					1395	4		ahnr
"8-78 Royal"								
4p. Roadster					1495			aeghlmprrx
5p. Touring					1495			aeghlmprrx
4p. Coupe					1495			aeghlmprrx
5p. Sedan					1495			aeghlmprrx
"8-92"								
5-7p. Touring					1695			aeghlmprrx
2-4p. Roadster					1895	2		aeghlmprrx
4p. Coupe					1895	2		aeghlmprrx
5p. Prin. Sedan					1895	4		aeghlmprrx
"8-91"								
2-4p. Roadster					1995			aeghlmprrx
4p. Coupe					2295			aeghlmprrx
5p. Prin. Bro'm					2295	4		aeghlmprrx
5p. Prin. Sedan					2295	4		aeghlmprrx
"8-92"								
5-7p. Touring					2465	4		aeghlmprrx
5p. Std. Sedan					2465	4		aeghlmprrx
7p. Std. Sedan					2565	4		aeghlmprrx
ERSKINE "6"								
5p. Tourer					\$915	4	2300	aeghlmprrx
4p. Spt. Rdstr					965		2305	Beghlmprrx
5p. Club Sedan					795	2		
2p. Bus. Coupe					895	2	2265	aeghlmprrx
4p. Spt. Coupe					965	2	2330	aeghlmprrx
5p. Sedan, 4d					965	4	2425	aeghlmprrx
ESSEX								
"Super Six"								
2-4p. Roadster								ahmn
5-p. Spt. Touring								ahmn
2-4p. Coupe					775			ahmn
5-p. Coach					735	2		ahmn
5-p. Sedan					795	4		ahmn
FALCON-KNIGHT								
"12"								
4p. Roadster							2450	ghr
... Touring								
4p. G.G. Rdster							2500	Beghlmprrx
2p. Coupe					1095			ghr
5p. Brougham					1095	2	2665	ghr
5p. Sedan					1195	4	2700	ghor
5p. Landau							2735	ghrtu
AUBURN								
"76"								
2-4p. Roadster					\$1195			aeghlmprrw
5-p. Touring								aeghlmprrw
... Cabriolet								aeghlmprru
5-p. Sp. Sedan					1295			aeghlmprru
5-p. Sedan					1395			aeghlmprru
"88"								
2-4p. Roadster					1495			aeghlmprrw
... Speedster					1695			aeghlmprrw
5-p. Touring								aeghlmprrw
... Cabriolet								aeghlmprru
5-p. Phaeton Sed.					1895			aeghlmprru
5-p. Sp. Sedan					1595			aeghlmprru
5-p. Sedan					1695			aeghlmprru
"115"								
2-4p. Roadster					1995			aeghlmprrw
... Speedster					2195			aeghlmprrw
5-p. Touring								aeghlmprrw
7-p. Touring								aeghlmprrw
... Cabriolet								aeghlmprru
5-p. Phaeton Sed.					2375			aeghlmprru
5-p. Sp. Sedan					2095			aeghlmprru
5-p. Sedan					2195			aeghlmprru
7-p. Sedan								aeghlmprru
BUICK								
"115"								
4p. DeL. Rdstr					\$1195	2	2990	aghmr
5p. Touring DeL.					1225	4	3040	aghmr
2-4p. Coupe					1195	2	3110	aghmr
5p. 2d. Sedan					1195	2	3215	aghmr
5p. 4d. Sedan					1295	4	3300	aghmr
4p. Ctry. Club					1275	4	3190	aghmr
5p. Town Bro'm					1375	4	3305	aghmr
"120"								
4p. Coupe					1465	2	3800	aghmr
5p. 4d. Sedan					1495	4	3870	aghmr
5p. Town Bro'm					1575			aghmr
"128"								
2-4p. Sp. Rdster					1495	2	3655	aghmr
4p. Sp. Touring					1525	4	3735	aghmr
5p. Coupe					1850	2	3740	aghmr
3p. Ctry. Club					1765			aghmr
5p. Bro. Sedan					1925	4	4050	aghmr
7p. Sedan					1995	4	4115	aghmr

A—Wood wheels with spare.
a—Wood wheels.
B—Wire wheels with spare.
b—Wire wheels.
C—Optional wheels with spare.
c—Type of wheels optional.

D—Disk wheels with spare.
d—Disk wheels.
f—Front and rear bumpers.
l—Front bumper.
g—Shock absorbers or snubbers.
h—Automatic windshield wiper.

KEY TO SYMBOLS:
i—Trunk and trunk rack.
j—Trunk rack, no trunk.
k—Spare tire.
l—Spare tire lock.
m—Engine heat indicator.
n—Dash gasoline gage.

s—Car heater.
c—Cigar lighter.
r—Rear traffic signal.
s—Spotlight.
t—Vanity and smoking set.
u—Smoking set.

v—Vanity set.
w—Windshield wings.
x—Clock.
z—Overall length.
3—Prices on application.

Prices, Weights and Equipment of Current Passenger Car Models

Passenger and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment
FORD "A"				
2-4p. Roadster.....	\$ 385	2		Beghmnr
5p. Phaeton.....	395	4		Beghnr
2p. Coupe.....	495	2		Beghnr
2-4p. Spt. Coupe.....	550	2		Beghnr
5p. Tudor Sedan.....	495	2		Beghnr
5p. Fordor Sedan.....	570	4		Beghnr
FRANKLIN "Series 12" 119" W.B.				
3p. Coupe.....	\$2490	3	3400	an
4p. Victoria.....	2740	4	3440	an
5p. Sedan.....	2790	5	3500	an
5p. OX Sedan.....	2815	5	3500	an
5p. Spt. Sedan.....	2910	5	3550	an
3-5p. Conv't Cpe.....	2925	3	3450	an
128" W.B.				
2-4p. Sp. Runab't.....	2975	2	3390	an
5p. Sp. Touring.....	2975	5	3500	an
7p. Touring.....	3060	7	3540	an
7p. Sedan.....	2980	7	3780	an
7p. Ox Sedan.....	3015	7	3780	an
7p. Limousine.....	3080	7	3780	an
GARDNER "75 Std."				
4-p. Roadster.....	\$1195	2	2995	ahmnr
5-p. Sp. Coupe.....	1295	2	3290	ahjmnr
4-p. Vic. Coupe.....	1295	2	3290	ahjmnr
5-p. Club Sedan.....	1395	4	3265	ahmnr
5-p. Std. Sedan.....	1495	4	3265	ahmnr
"75 Del."				
4-p. Roadster.....	1295	2	2995	aeghmnr
5-p. Sp. Coupe.....	1395	2	3290	aeghjmnr
4-p. Vic. Coupe.....	1395	2	3290	aeghjmnr
5-p. Club Sedan.....	1495	4	3265	aeghmnr
5-p. DeL. Sedan.....	1595	4	3265	aeghmnr
"85"				
4-p. Roadster.....	1695	2	3040	Aeghmnr
5-p. Brougham.....	1875	4	3360	Aeghimnr
5-p. Sedan.....	1895	4	3380	Aeghmnr
5-p. Cus. Coupe.....	2095	5	3380	Aeghmnr
"95"				
2-4p. Roadster.....	2035	2	2995	ahmnr
2-4p. Collap. Cpe.....	2495	2	2995	ahmnr
5-p. Brougham.....	2275	5	3265	ahmnr
5-p. Sedan.....	2295	5	3265	ahmnr
GRAHAM-PAIGE				
"610"				
2p. Coupe.....	\$860	2		ahmnr
5p. Sedan.....	875	5		ahmnr
"619"				
4p. Coupe.....	1575	4		ahmnr
5p. Sedan.....	1595	5		ahmnr
"629"				
5p. Sedan.....	1985	5		ahmnr
5p. Town Sedan.....	2085	5		ahmnr
7p. Sedan.....	2110	7		ahmnr
HUDSON "S"				
2-p. Roadster.....		2		ahmnr
5-p. Coach.....		5		ahmnr
5-p. Sedan.....		5		ahmnr
"O"				
7-p. Phaeton.....		7		ahmnr
Landau Sed.....		7		ahmnr
5-p. Sedan.....		5		ahmnr
Victoria.....		5		ahmnr
7-p. Sedan.....		7		ahmnr
HUPMOBILE "A"				
4p. Roadster.....	\$1335	2		aghnr
7p. Phaeton.....	1395	4		aghnr
5p. Sedan 2d.....	1345	2		aghnr
4p. Coupe.....	1385	2		aghnr
5p. Sedan.....	1395	4		aghnr
"F-4"				
5p. Touring.....	1795	4	3300	aghnrx
7p. Touring.....	1895	4	3360	aghnrvx
2-4p. Roadster.....	1895	2	3355	aghnrvx
5p. Brougham.....	2095	2	3515	j
2-4p. Coupe.....	2195	2	3465	dghrx
5p. Sedan.....	2195	4	3545	aghrx
5p. Victoria.....	2195	2	3525	aghnrx
7p. Sedan.....	2345	4	3360	ehr
7p. Sedan Lim.....	2520	4	3360	sehnrx
"M-8"				
5-p. Phaeton.....	1905	5		
Roadster.....	1915	5		
7-p. Phaeton.....	1935	7		
5-p. Sedan.....	1825	5		
4p. Coupe.....	1865	4		
4-p. Sedan.....	1875	4		
2-4p. Cabriolet.....	1955	2		
JORDAN "R"				
4p. Blue Boy.....	\$1495	4	2800	Beeghkmnx
4p. Spt. Salon.....	1295	2	2275	aghjmnrx
2-4p. Tomboy.....	1395	2	2650	aghjmnrx
5p. Sedan.....	1395	4	2775	aghmtrvx
"J-1"				
4p. Playboy.....	1545	2	2915	aghmnrx
2-4p. Sp. Coupe.....	1695	2	3070	aghmnrx
5p. Cus. Sedan.....	1695	4	3200	aghmnrx
4p. Cus. Vict.....	1695	2	3200	aghmnrx
"JE"				
4p. Collap. Coupe.....	1995	2	3185	aghmnrx
4p. Perm. Coupe.....	1995	2	3185	aghmnrx
5p. Victoria.....	1995	2	3275	aghmnrx
5. Sedan.....	1995	4	3300	aghmnrx
KISSEL "6-70"				
4p. Cpe. Roadster.....	\$1595	4	2920	ahmr
5p. Bro'm Sedan.....	1495	4	2915	ahmr
5p. Victoria.....	1595	5	2990	
5. Sedan.....	1595	5	3005	
"8-80"				
125" W.B.				
5p. Phaeton.....	1885	4	3240	ahmnr
4p. Speedster.....	2095	2	3155	ahmnr
4p. Cp. Rdstr.....	2095	2	3343	ahmnr
5p. Spec. Bro'm.....	1995	2	3343	ahmnr
5p. Bro'm Sedan.....	2095	4	3400	ahmnr
5p. Conv. Bro'm.....	2495	5	3515	ahmnr
132" W.B.				
7p. Touring.....	1985	4	3360	ahmnr
4p. Tourster.....	2095	4	3155	ahmnr
5p. Bro'm Sedan.....	2295	4	3455	ahmnr
7p. Sedan.....	2495	7	3630	ahmnr
"8-90"				
131" W.B.				
5p. Phaeton.....	2185	4	3220	ahmnr
4p. Speedster.....	2395	2	3360	ahmnr
4p. Cpe. Rdstr.....	2395	2	3578	ahmnr
5p. Spec. Bro'm.....	2295	2	3671	ahmnr
5p. Bro'm Sedan.....	2395	4	3760	ahmnr
5p. Conv. Bro'm.....	2795	5	3863	ahmnr
139" W.B.				
7p. Touring.....	2285	4	3630	ahmnr
4p. Tourster.....	2395	4	3335	ahmnr
5p. Bro'm Sedan.....	2595	4	3755	ahmnr
7p. Sedan.....	2795	4	3975	ahmnr
5p. Sedan DeL.....	2985	4	3910	aghimorvx
7p. Sedan DeL.....	3495	4	4080	aghimorvx
7p. Ber. Sedan.....	3585	4	4125	aghimorvx
LA SALLE 125" W.B.				
2-4p. Roadster.....	2485	2	3665	aeghlmnrpx
5p. Phaeton.....	2485	4	3680	aeghlmnrpx
4p. Sp. Phaeton.....	2975	4	4080	Beghjkmpn rsx
2p. Bus. Coupe.....				
5p. Family Sedan.....	2350	5		
2-4p. Coupe.....	2450	2	3875	aeghlmnrpx
2-4p. Conv. Cpe.....	2550	2	3800	aeghlmnrpx
4p. Victoria.....	2550	2	3895	aeghlmnrpx
5p. Town Sedan.....	2495	4	3975	aeghlmnrpx
5p. Sedan.....	2495	4	4000	aeghlmnrpx
2p. Coupe.....	3001	2		aeghlmnrpx
5p. Sedan.....	3200	4		aeghlmnrpx
5p. Town Cab.....	4500	4		
5p. Trans. Cab.....	4700	4		
134" W.B.				
7p. Family Sedan.....	2575	7		
5p. Coupe.....	2625	5		
5p. Cab Sedan.....	2675	5		
7p. Sedan.....	2775	4	4400	aeghlmnrpx
5p. Imp. Sedan.....	2775	4	4315	aeghlmnrpx
7p. Imp. Sedan.....	2875	4		aeghlmnrpx
LINCOLN "g"				
2p. Spt. Rdstr.....	\$4600	2	24930	aeghlnprx
2-4p. Club Rdstr.....	4600	2	5010	aeghlnprx
7p. Spt. Touring.....	4600	4	4940	aeghlnprx
4p. Spt. Phaeton.....	4600	4	4910	beghlnprwx
4p. Coupe.....	4600	2	4805	aeghlnprx
4p. Sedan.....	4800	4	4930	aeghlnprx
5p. Sedan.....	4800	4	5010	aeghlnprx
2p. Coupe.....	5000	2	4720	aeghlnprx
7p. Sedan.....	5000	4	5050	aeghlnprx
7p. Limousine.....	\$200	4	5165	aeghlnprx
4p. Berline.....	\$5500	5	5115	aeghlnprx
7p. Limousine.....	6000	7	5380	aeghlnprx
7p. Brougham.....	6400	7	5025	aeghlnprx
6p. Ber. Landau.....	6500	6		aeghlnprx
7p. Cabriolet.....	6600	7	5160	aeghlnprx
7p. Le Baron Cab.....	7000	7	5200	aeghlnprx
7p. Holbrook Cab.....	7200	7	5280	aeghlnprx
7p. Collap. Cab.....	7300	7	5140	aeghlnprx
LOCOMOBILE "8-70"				
5p. Brougham.....	\$2100	4	3525	afghkmnrz
5p. Sedan.....	2100	4	3575	afghkmnrz
4p. Vic. Coupe.....	2100	2	3600	afghkmnrz
"8-80"				
4p. Spt. Touring.....	2850	4	3972	aeghklmnrpt uvx
4p. Coupe.....				
4p. Collap. Coupe.....	3000	2	3780	aeghklmnrpt uvx
5p. Sedan.....				
5. Brougham.....	2900	4	3990	aeghklmnrpt uvx
7p. Sedan.....	3350	4	4140	aeghklmnrpt uvx
7p. Sub. Sedan.....	3500	4	4280	aeghklmnrpt uvx
"48"				
4p. Sportif.....	\$	4	5030	afghjklrxx
7p. Roadster.....		7		
7p. Touring.....		7	4530	afghklrxx
7p. Tour Lim.....		7	4640	afghklrxx
6p. Brougham.....		6	4680	afghklrxx
6p. Vic. Sedan.....		6	4600	afghklrxx
7p. Lim. Enc. Dr.....		7	4588	afghklrxx
7p. Cabriolet.....		7	4624	afghklrxx
"90"				
4p. Sportif.....	5900	4	4475	aeghklmnrpt uvx
4p. Roadster.....	5900	2	4370	aeghklmnrpt uvx
7p. Touring.....	6000	7		aeghklmnrpt uvx
5p. Vic. Sedan.....	7300	4	4842	afghimprtx uvx
7p. Suburban.....	7500	4	4930	afghimprtx uvx
4p. Vic. Sed.....	7450	4		aeghklmnrpt uvx
7p. Town Bro'm.....	7500	4	4615	afghimprtx uvx
7p. Cabriolet.....	7500	4	4615	afghimprtx uvx
Collap. Cab.....	7750	4		aeghklmnrpt uvx
MCFARLAN "Str. 8" 131" W.B.				
2p. Roadster.....	\$3050	2	3400	afghlmnrpx
5p. Touring.....	2650	4	3400	afghlmnrpx
4p. Sp. Phaeton.....	3180	4	3200	afghlmnrpx
3p. Town Coupe.....	3180	2	3650	afghlmnrpx
5p. Sedan.....	3180	4	3650	afghlmnrpx
5p. Brougham.....	3180	4	3650	afghlmnrpx
5p. Town Car.....	4600	4	3750	afghlmnrpx
136" W.B.				
7p. Sedan.....	3680	4	4000	afghlmnrpx
7p. Sub. Sedan.....	3780	4	4000	afghlmnrpx
"TV6"				
2p. Roadster.....	5800	2	4300	afghlmnrpx
5p. Spt. Tour.....	5600	4	4700	afghlmnrpx
7p. Touring.....	5700	4		afghlmnrpx
5p. Sedan.....	6720	4	5200	afghlmnrpx
7p. Sedan.....				
7p. Sedan.....	6720	4	5200	afghlmnrpx
7p. Cab iolet.....	9000	4	5200	afghlmnrpx
MARMON "68"				
2p. Roadster.....	\$1495	2		
5-p. Sedan.....	1395	4		aeghmnrst
4-p. Vic. Coupe.....	1450	4		aeghmnrst
2p. Coupe.....	1395	2		aeghmnrst
"78"				
2p. Roadster.....	1895	2		ahlmnrprwx
4p. Speedster.....	1965	4		ahlmnrprwx
2-4. Collap. Cpe.....	1995	2		ahlmnrprwx
2p-4. Coupe.....	1895	2		ahlmnrprwx
4p. Vic. Coupe.....	1995	2		ahlmnrprwx
5p. Sedan.....	1895	4		ahlmnrprwx
"E-75"				
2p. Speedster.....	3485	2	4251	aeghlnprx
4p. Speedster.....	3485	2	4256	aeghlnprx
5p. Phaeton.....	3485	4	4017	aeghlnprx
7p. Tour. Speed.....	3565	4	4480	aeghlnprx
2p. Coupe Rdstr.....	3565	2	4374	aeghlnprx
5p. Town Coupe.....	3195	2	4452	aeghlnprx
2p. Coupe.....	3485	2	4373	aeghlnprx
4p. Victoria.....	3485	2	4346	aeghlnprx
5p. Brougham.....	3565	4	4525	aeghlnprx
5p. Sedan.....	3565	4	4468	aeghlnprx
7p. Sedan.....	3640	4	4620	aeghlnprx
5p. Cus. Sedan.....	3660	4	4515	aeghlnprx
7p. Cus. Sedan.....	4075	4	4678	aeghlnprx
7p. Cus. Limou.....	4175	4	4718	aeghlnprx
MOON "6-60"				
5p. Phaeton.....	995	4	2340	an
3-5p. Roy. Rdstr.....	1095	2	2330	anw
3-5p. Roy. Cab.....	1255	2	2575	an
5p. Coach.....	995	2	2420	an
5p. Roy. Sedan.....	1195	2	2520	ahin
5p. Roy. Sedan.....	1295	4	2605	ahin
"A"				
5p. Touring.....	1195	4	2560	dn
5p. Roy. Rdstr.....	1395	2	2600	dn
5p. Collap. Cab.....	1795	3	2720	dn
5p. Sedan DeL.....	1395	2	2710	dn
5p. Sedan DeL.....	1545	4	2880	dn
"6-72"				
5p. Roy Roadster.....	1395	2	2630	aghmnr
5p. Roy Cab Rdstr.....	1445	2	2815	aghmnr
5p. Royal Sedan.....	1445	4	3050	aghmnr
5p. Royal Sedan.....	1545	4	3080	aghmnr
"8-80"				
5-p. C.C. Sedan.....	2195	4	3500	chmnr
5-p. Sedan.....	2195	4	3500	chmnr
NASH "Std. 6"				
5p. Touring.....	\$865	4	2325	Dghnr
2-4p. Conv't Cab.....	995	2	2505	Dghnr
2p. Coupe.....	875	2	2345	Dghnr
5p. Sedan.....	895	2	2450	Dghnr
5p. Sedan.....	995	4	2500	Dghnr
5p. Land. Sedan.....	1085	4	2610	Dghnr

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f—Front bumper.
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h—Automatic windshield wiper.

KEY TO SYMBOLS

i—Trunk and trunk rack.
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k—Spare tire.
l—Spare tire lock.
m—Engine heat indicator.
n—Dash gasoline gauge.

e—Car heater.
 p—Cigar lighter.
 r—Rear traffic signal.
 s—Spotlight.
 t—Vanity and smoking set.
 u—Smoking set.

v—Vanity set.
w—Windshield wings
x—Clock.
*—Overall length.
\$—Prices on application

Prices, Weights and Equipment of Current Passenger Car Models

Standard Equipment	Passenger and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment	Passenger and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment	Passenger and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment	Passenger and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment
	"Special"					PEERLESS					ROAMER					"President 8"				
	4p. Roadster.....	1225	2	2980	Dghnr	2-4p. Roadster.....	\$1195	2	2600	deghlmnr	2p. Roadster.....	\$1595	2	3225		5-p. Sedan.....	1985	4		aeghimnrtx
	5p. Touring.....	1135	4	2980	Dghnr	5p. Phaeton.....	1195	4	2765	aghlmnrw	2p. Coupe.....	1750	2	3380		7-p. Sedan.....	1985	4		aeghimnrtx
	2-4p. Cabriolet.....	1290	4	3070	Dghnr	2-4p. C'pe Rdstr..	1295	4	2725	deghlmnr	5p. Sedan.....	1795	2	3450		5-p. Del. Sedan.....	2250	4		Beghimnrtx
	2p. Bus. Coupe.....	1165	2	3030	Dghnr	5p. Sedan.....	1295	4	2895	deghlmnr	2p. Coupe.....	\$1985	2	3410	ag	7-p. Del. Sedan.....	2250	4		Beghimnrtx
	5p. Sedan.....	1215	2	3150	Dghinrt	"6-80"					5p. Brougham.....	1985	2	3440	ag					
	4p. Victoria.....	1295	2	3170	Dghnr	5p. Phaeton.....	1395	4	2850	aeghlmnrw	5p. Sedan.....	1985	4	3570	ag					
	5p. Sedan.....	1335	4	3250	Dghartuv	2-4p. Roadster.....	1495	2	3025	ceghlmnrw	"8-83"									
	5p. Coupe.....	1445	4	3380	Dghinrt	2-4p. Coupe.....	1565	2	2975	aeghlmnr	5p. Tourer.....	2495	4	3650	cg					
	"Advanced"					5p. 2d. Sedan.....	1395	2	3000	aeghlmr	5p. Sedan.....	2985	4	3880	cg					
	121" W.B.					5p. Std. Sedan.....	1395	4	3125	aghlmnr.	7p. Sedan.....	3295	4	3980	cg					
	4p. Roadster.....	1475	2	3400	Dghmr	Spt. Sedan.....	1395	4	3100											
	5p. Touring.....	1340	4	3400	Dghmr	5p. Del. Sedan.....	1795	4	3125	Deghlmnr										
	5p. Sedan.....	1425	2	3620	Dghlmrv	"6-91"														
	5p. Sedan.....	1545	4	3650	Dghlmrv	5p. Phaeton.....	1685	4	2930	aeghlmnrwx										
	127" W.B.					2-4p. Roadster.....	1685	2	2960	aeghlmnrwx										
	7p. Touring.....	1440	4	3500	Dghmr	4p. Coupe.....	1725	2	3050	aeghlmnr										
	5p. Sp. Touring.....	1540	4	3500	Bghlmr	4p. Sedan.....	1805	2	3150	aeghlmnr										
	4p. Victoria.....	1595	2	3640	Dghlmrv	5p. Sedan.....	1895	4	3200	aeghlmnr										
	4p. Coupe.....	1775	2	3650	Dghmr	5p. Landau.....	1995	4	3250	aeghlmnr										
	5p. Amb. Sedan.....	1925	4	3820	Dghlmrv	"8-89"														
	7p. Sedan.....	1990	4	3830	Dghlmrv	126" W.B.														
	7p. Imp. Sedan.....	2165	4	3900	Dghnprt	5p. Coupe.....	2705	2	3810	Deghlmnr										
						5p. Sedan.....	2345	4	3875	Deghlmnr										
						133 3/4" W.B.														
						2-4p. Roadster.....	2245	2	3650	Deghlmnr										
						7p. Sedan.....	2545	2	3975	Deghlmnr										
						7p. Cus. Sed. Lim.	2645	4	4120	aeghlmnr										
						5p. Sedan.....	2345	4	4100	Deghlmnr										
						7p. Sedan.....	2545	4	4050	Deghlmnr										
						5p. Ber. Lim.....	2345	4	4100	Deghlmnr										

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Mechanical Specifications of Current Passenger Car Models

This list comprises current cars distributed on a national basis only. Data for previous models back to 1920 will be found in the Chilton Catalog and Directory

MAKE AND MODEL	Wheel Base (Inches)	Type	Decimals-Balloons	Model	Bore and Stroke	Rated H.P.	N.A.C.C. Placement	Valve Arrangement	Crankshaft Drive	Camshaft Drive	ENGINE			ELECTRICAL SYSTEM			Clutch—Type and Make	Gear Set—Make	Universal—Type and Make	REAR AXLE		BRAKES		Steering Gear—Type and Make	Rear Springs—Type and Make	Chassis Lubrication—Type and Make	ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS
											No. Main Bear.	Crankshaft Vib.	Damper	Oil System	Cooling System	Thermostat				Radiator	Shut-off	Carburetor	Air Cleaner				
Auburn.....	76	28-55	28-55	Lyc.	6-27/32x4 1/2	19.8	185	Ch. Als.	4	PG	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	H	Ros.	S-56 1/2	Bijur.	A-Bas-American-Bosch
Auburn.....	88	30-60	30-60	Lyc.	8-31/32x5 1/2	26.4	247	Ch. Als.	5	PG	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	3.9	E-T	H	Ros.	S-56 1/2	Bijur.	A-K-Atwater-Kent
Auburn.....	115	30-60	30-60	Lyc.	8-31/32x5 1/2	33.8	289	Ch. Als.	5	PG	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	3.9	E-T	H	Ros.	S-56 1/2	Bijur.	A-L-Auto-Life
Buick.....	115 1/2	31-15	31-15	W.D.	8-31/32x5 1/2	23.4	207	Ch. Als.	4	PG	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Buick.....	120-128	33-00	33-00	W.D.	8-31/32x5 1/2	29.4	274	Ch. Als.	4	PG	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Cadillac.....	341	32-60	32-60	W.D.	8-31/32x5 1/2	35.1	341	Ch. Als.	8	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Chandler.....	109	32-60	32-60	W.D.	8-31/32x5 1/2	29.4	289	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Chandler.....	124	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Chrysler.....	107	30-45	30-45	W.D.	8-31/32x5 1/2	21.0	171	Ch. Als.	3	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Chrysler.....	153 1/2	29-45	29-45	W.D.	8-31/32x5 1/2	21.0	171	Ch. Als.	3	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Chrysler.....	156 1/2	29-45	29-45	W.D.	8-31/32x5 1/2	21.0	171	Ch. Als.	3	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Chrysler.....	172 1/2	30-60	30-60	W.D.	8-31/32x5 1/2	25.3	249	Ch. Als.	3	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Chrysler.....	191 1/2	30-60	30-60	W.D.	8-31/32x5 1/2	35.1	341	Ch. Als.	3	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Cunningham.....	132-142	32-60	32-60	W.D.	8-31/32x5 1/2	45.0	442	Ch. Als.	3	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Daimler.....	119	32-60	32-60	W.D.	8-31/32x5 1/2	35.1	341	Ch. Als.	3	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	124	32-60	32-60	W.D.	8-31/32x5 1/2	29.4	289	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.	8-31/32x5 1/2	33.8	314	Ch. Als.	4	PH	Pu.	Y	N	N	D-R	D-R	N	War.	m-U.P.	Col.	4.9	E-T	M	Jac.	V-48	Pr-Ze	Ad-Adams
Dodge Brothers.....	128	32-60	32-60	W.D.</																							



Used Cars and the Cadillac Dealer

The Cadillac-La Salle dealer has a good name to uphold. Unless he deals fairly in selling used cars, this good name will suffer.

Cadillac dealers sell millions of dollars' worth of used cars of all makes every year.

A good used car is a sound purchase and represents extreme value for every dollar invested if bought from a reliable merchant.

Used cars sold by a Cadillac-La Salle dealer represent more than a purchase in car value—they must be so sold as to protect a good name and to build good will.

CADILLAC MOTOR CAR COMPANY

Division of General Motors Corporation

DETROIT, MICHIGAN

ge
Y—Yes
Sp—Spur gear (camshaft drive)
See—Special make
Sta—Standard
signature to mains, rods, cam-
PG—Pressure to mains, rods, cam-
shaft, timing case.
PH—Pressure to mains, rods, cam-
shaft.
P—Pressure gun
PA—Pressure to mains, rods, cam-
shaft, timing case.
PB—Pressure to mains, rods, cam-
shaft, timing case.
M—Metal
M—Mechanical
N—None
N—Platform (rear springs)
N—Noted from
C—Chain and sprocket
G—Gear
H—Hydraulic (valves)
H—Hydraulic (brakes)
H—Hydraulic gear
H—Hydraulic
D—Double disk
ds—Double plate
E—Full ellipse
E—External four wheels
E—External rear wheels
E—External transmission
S—Semi-floating
T—Three-quarter floating
Al—Aluminum
Al—Aluminum with strut.
B—Both internal and external, four wheels

MAKE AND MODEL

[illegible]

Others Furnished

-Overall Length
-Semi-floating

—Aluminum with structural steel
—Semi-steel
—Semi-steel with structural steel

-F--Both internal and external, four wheels

30 H. P. L-HEAD SIX-CYLINDER ENGINE THRILLING, SMOOTHER PERFORMANCE TWO-WAY COOLING

THREE-WAY PRESSURE LUBRICATION G. M. A. C. PAYMENT PLAN THERMOSTATIC CHARGING CONTROL

BUMPERS FRONT AND REAR **MATCH** BALLOON-GEARED STEERING

TWO-WAY COOLING **THIS PRICE** HARMONIC BALANCER

NEW COLORS **FOR ALL THESE** FISHER BODY

111-INCH WHEELBASE **FEATURES** LOW GRAVITY FRAME

DUCO FINISH **\$** NEW COLORS

HONED CYLINDERS **875** V. V. WINDSHIELD

SILENT TIMING CHAIN **TWO-DOOR SEDAN** 30x5 BALLOON TIRES

EASY-SHIFT TRANSMISSION **111-INCH WHEELBASE**

FOUR WHEEL BRAKES **NEW SMARTNESS**

CHROMIUM PLATING **NEW LUXURY**

FISHER BODY **REAR TRAFFIC SIGNAL**

REAR VISION MIRROR **OIL FILTER, DUAL AIR CLEANING, CRANKCASE VENTILATION** (ONLY 3 TO 4 OIL CHANGES A YEAR)

FULL AUTOMATIC SPARK CONTROL TWIN-BEAM HEADLIGHTS, CONTROLLED FROM STEERING WHEEL

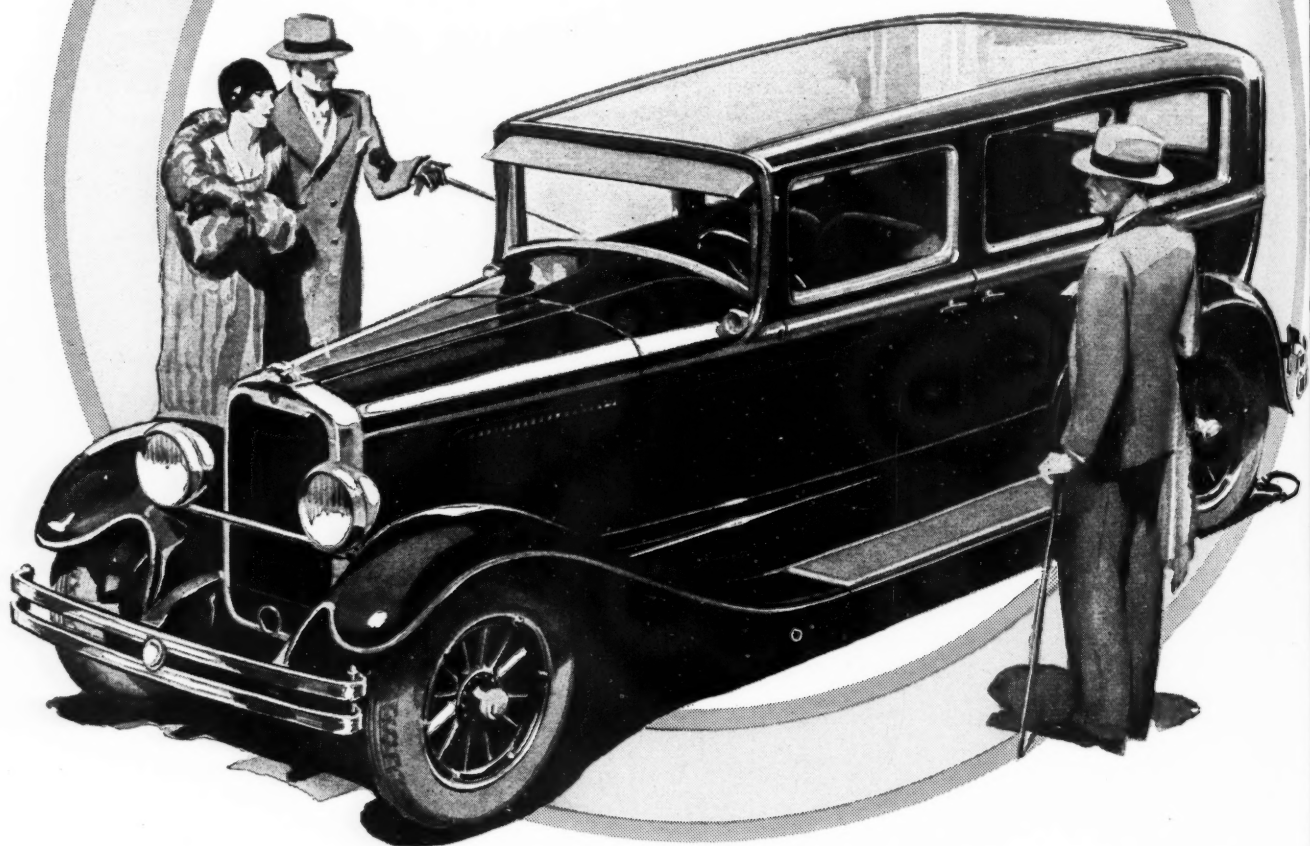
Formerly this Oldsmobile was \$950—and more than worth it. It was a \$1000 value—and it is today. But General Motors again upset tradition. Oldsmobile again kept faith with its policy pledged to progress. Today dealers offer Oldsmobile Six—with all the known factors of motor car merit including crank-

case ventilation, oil filter, air cleaner and *four-wheel brakes*—at \$875 for a quality closed car. Look as you will... hunt as you may... you'll find no other such car at any such price! And so Oldsmobile dealers are profiting... as they will continue to profit... by Oldsmobile's *policy pledged to progress*.



OLDSMOBILE SIX

PRODUCT OF GENERAL MOTORS



The new advanced **PEERLESS Six-91**

SPECIFICATIONS

Bodies, Peerless built, low hung, distinctive, ultra-fashionable, far in advance of the times.

Long, sweeping front fenders, accentuate length of car.

Bumpers that conform to shape of body.

Motor mounted in rubber for added smoothness.

Unusually heavy 7-bearing crankshaft.

Nelson Bohnalite Pistons.
Ross Cam and Lever Steering.
Lockheed hydraulic 4-wheel brakes.

Beautiful new radiator design.
Wheelbase—120 inches.

A full score of other advanced points

5-Passenger Sedan \$1895
2-Passenger Coupe 1895

4-Passenger Victoria \$1895
7-Passenger Sedan 1995

P E E R L E S S H A S A L W A Y S

PEERLESS

offers a line of cars within the reach of every purse

NEVER has the Peerless franchise been so attractive. From the standpoint of the dealer and distributor, it is exceptional in its fine appreciation of your desires and needs.

It embraces four cars! Each different in price. Each individual in design and appeal. Each built to win the unstinted enthusiasm of the ultimate owner.

For no matter what model is bought, it is a Peerless through and through. It is obvious in its outstanding value. And it is

offered at a price well within the purse limits of the people you sell.

For a generation Peerless has made money and built business for aggressive distributors and dealers. Today, the profit opportunity is greater than ever before.

If you seek a car, dependable as time, carrying a fine old name and priced to give outstanding value to your customers, then Peerless is your opportunity.

Write or wire for particulars of the new 1928 Peerless franchise.

PEERLESS MOTOR CAR CORPORATION • *Cleveland, Ohio*
(All Prices F. O. B. Factory)



And new low prices on these three 1928 models

THE SIX-60

Phaeton	\$1195
Roadster	1195
Roadster-Coupe	1295
Four-Door Sedan	1295

THE SIX-80

Roadster	\$1295
Phaeton	1295
Coupe	1395
5-Passenger Sedan	1395
Close-Coupled Sedan	1395

THE EIGHT-69

5-Passenger Coupe	\$2345
5-Passenger Sedan	2345
Roadster	2245
7-Passenger Sedan	2545
Berline Limousine	2645

Y S B E E N A G O O D C A R



“Since October 1st
sold 5 sets of Stabilators
a month—*plus*...”

Ray Jacoby

Ray Jacoby in Philadelphia took on the Watson Retail Dealership 4 months ago. Today he is selling an average of 5 sets of Stabilators a month—*plus* an average daily income of \$10 on Stabilator Parts and Service alone.

Yet Ray is no super-man. He is a Service Specialist—just like you—and when he recommends Watson Stabilators to his customers, they listen. They are sold on his good service—so they take his word on the Easy Riding question.

Ray Jacoby knows that the public today is sold on Easy Riding Devices—and he takes

advantage of this by tying up with Watson Stabilator Popularity and Prestige.

What Jacoby is doing in West Philadelphia—you can do in your neighborhood.

Whether you're running a garage—whether you're a serviceman—if you are in the battery business—if you're in the tire business—no matter what your line, you can sell Watson Stabilators. Our new plan of retail selling makes this possible. The Watson Dealership may be open in your neighborhood. Find out from your local Watson Distributor or write direct to the John Warren Watson Co., Philadelphia, Pa.

WATSON STABILATORS

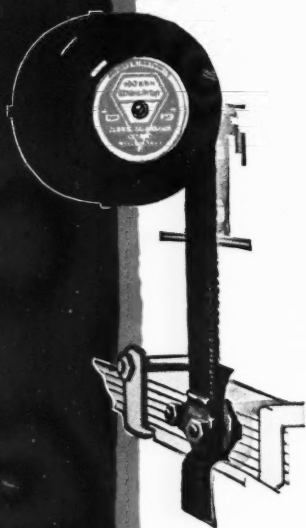
WATSON STABILATORS

per set
of four

\$29 IN FAR
WEST

designed solely
for America's
LIGHT
SHORT WHEELBASE
CARS

Short Wheelbase or Long *a Watson fits it!*

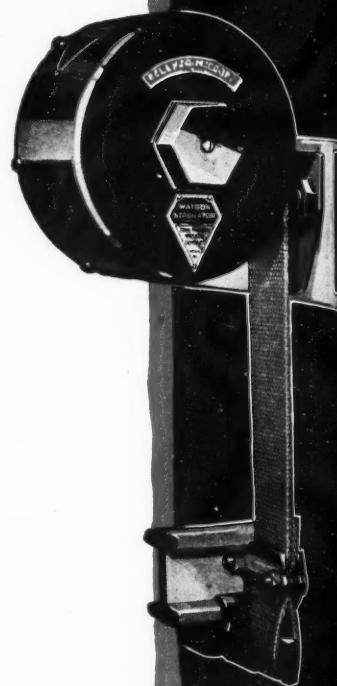


Now—in addition to Watson Stabilators for big cars—there's a new Watson. A revolutionary easy riding device—designed solely to bring to America's light, short wheelbase cars that same riding luxury that Watson Stabilators have for years contributed to Stutz, Franklin, Packard, Chrysler Imperial, and many other famous names. And ready for you to sell at the amazingly low price of \$28 list per complete set of 4.

For Dodge Four, Chevrolet, Essex, Chrysler 50-52 and 60-62, Standard Nash, Pontiac, Oakland, Oldsmobile, Erskine, Wolverine, Star, Whippet and Falcon-Knight.

3 out of 4 car owners are now Watson prospects. No longer need car owners sacrifice the advantages of true Watson Stabilation. Here is 100% Relaxed Riding that *any* car owner can afford.

Write for complete details of the new Watson Stabilator Selling Program today! Address John Warren Watson Company, Philadelphia, Pa.



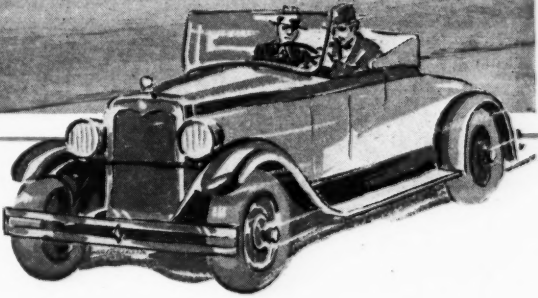
**WATSON
STABILATORS**

Official Sales and Service

WATSON STABILATORS

Your chance to share in Watson Profit. Your chance to hang out the Watson Shingle and ride to success with Watson Popularity and Watson Prestige.



"Equipping 
2 out of every 3 cars
we sell with Watsons..."

J. C. Jardel

Mgr., Jenkintown Motors, Dodge Dealers, Jenkintown, Pa.

The Jenkintown Motor Co. adds the sale of a set of Watson Stabilators to two out of every three Dodge Cars they sell. Since they took on Watson Stabilators about a year and a half ago they sold more than 200 sets of Stabilators. The Jenkintown Motor Co. knows that Watson Stabilators help them sell more cars. They also know that the extra volume on Watson Stabilators at the end of the year is practically all clear profit. They equip their demonstrators with Watsons. They equip the cars on their sales floor and quote prices completely equipped and delivered.

Dodge Dealers—you can do the same thing in your town.

There's no magic in it. Just decide now to take advantage of the trend toward Easy Riding. Easier than ever now to sell Watson Stabilators on Dodge Four models now that the Senior Six and Victory Six are equipped with Stabilators at the factory.

Certainly this extra volume is worth going after—when it requires practically no extra investment—no additional overhead—and very little extra sales effort. Why not get in touch with your local Watson Stabilator Distributor today and find out the possibilities in Stabilators? We have a new plan of selling for Car Dealers that will interest you. John Warren Watson Company, Philadelphia, Pa.

WATSON STABILATORS



THE JEWELS
OF THE MOTOR

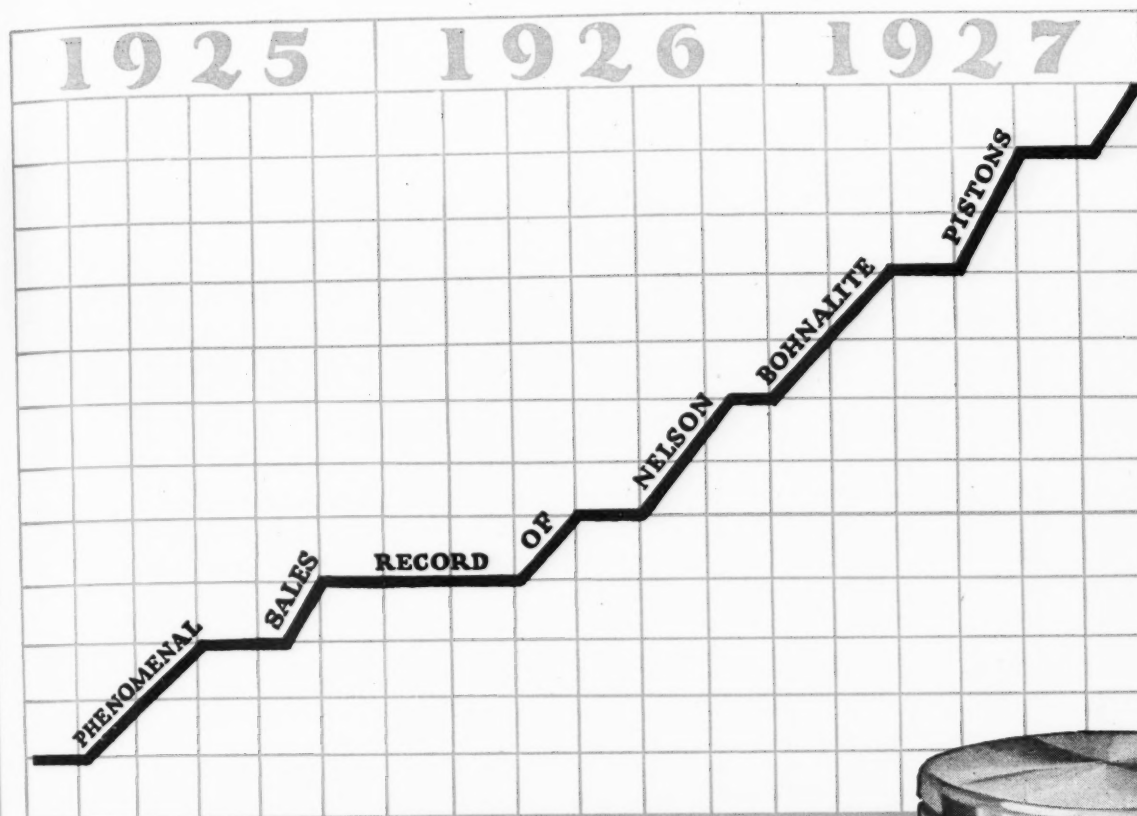


**Largest Makers
of Babbitt Lined
Bearings *in the* World**

BOHN ALUMINUM & BRASS CORPORATION

DETROIT-MICHIGAN

ALSO MANUFACTURERS OF NELSON BOHNALITE PISTONS AND BOHNALITE CASTINGS



A smashing record in three short years

The acceptance accorded Nelson Bohnalite Pistons on the part of motor car manufacturers has indeed been phenomenal.

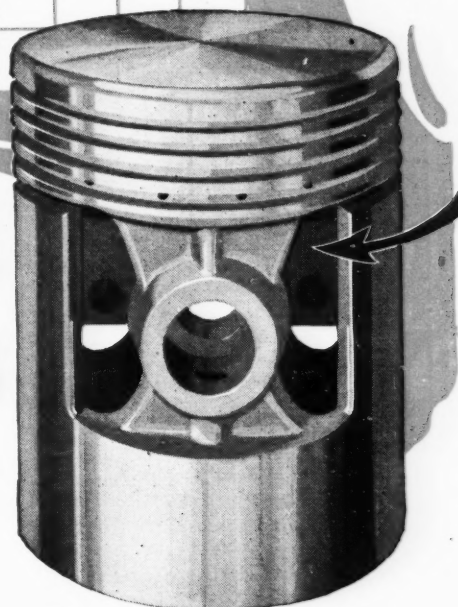
From a standing start three years ago, we have reached the point where production schedules of our present customers for the current year, will call for not less than 10,000,000 Nelson Bohnalite Pistons.

Thus will a smoother performance, reduced vibration and faster acceleration be guaranteed to millions of motor car buyers.

BOHN ALUMINUM & BRASS CORPORATION
DETROIT MICHIGAN

Also makers of the famous Bohn Ring True Bearings

**NELSON
BOHNALITE
PISTONS**



**The Light Alloy Piston
With a Steel Backohn**

Special alloy steel Backohns are cast in, to control expansion and maintain satisfactory clearances under all engine operating conditions.

BANG!

When two cars bump at the crossing, with smashing glass, bent fenders, etc., the crowd that immediately collects represents *no particular group of people*. It includes bankers, brokers, grocer boys, bootleggers, candle stick makers, *et al*.

But with your dealer message appearing in the trade's principal newspaper (edited for 25,000 trade units, comprising the industry's real merchandising effectives), the circulation is *really effective*—with waste comparable to that fractional percentage of impurity that the makers of Ivory soap claim for their product.

Have you noted the recent changes in MOTOR AGE, which are giving it an odds-on advantage in the automotive news field? MOTOR AGE is getting a lot of favorable reaction from its subscribers—reaction that spells increasing value to those manufacturers who use its advertising pages.

MOTOR AGE circulation is paid. Except for AUTOMOBILE TRADE JOURNAL, which has a fractional advantage, the percentage of voluntary subscription renewal is the highest of any automotive publication. A charter member of the A. B. C. An advertising vehicle that will carry your dealer message the whole distance.

If you are interested in a market analysis to determine, in a practical manner, just how your product can best be merchandised via automotive trade channels, we will be glad to place our unusual research facilities at your service.

MOTOR AGE

A Chilton Class Journal Publication

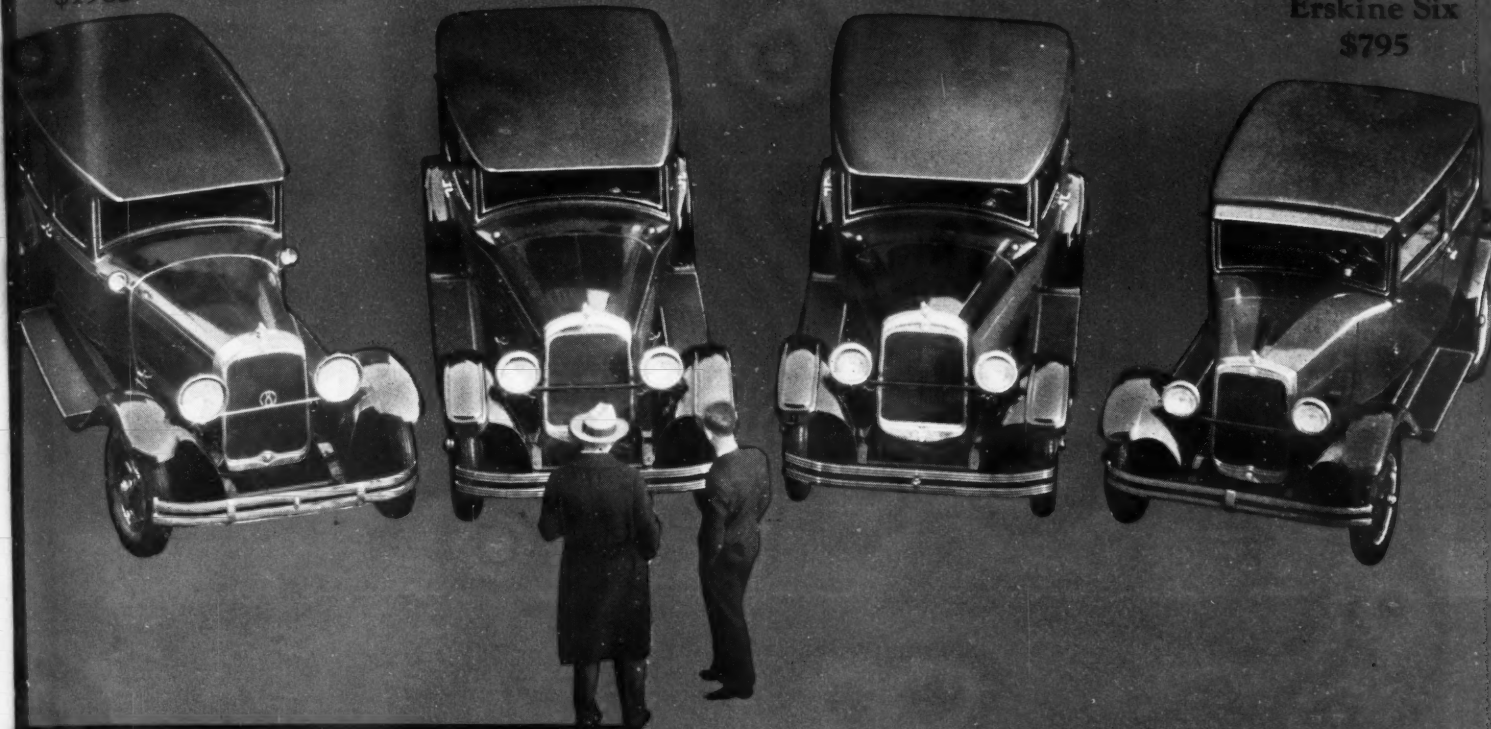
CHESTNUT and 56th STREETS, PHILADELPHIA

The
President
Eight
\$1985

The
Commander
\$1495

The
Dictator
\$1195

The New
American
Edition of
Erskine Six
\$795



No prospect need walk out of your showroom *unsold!*

Four roads to multiplied profits!

STUDEBAKER dealers today are in the fortunate position of being able to satisfy every motor car demand in their communities. No prospect need ever walk out of their sales-rooms unsold, because there is a Studebaker-Erskine model in every price range—champion performers in their power classes—outstanding values in their price classes.

Studebaker dealers are prosperous in small centers as well as large because they are able to satisfy prospective buyers with small bank rolls as well as large ones. They take profits from all classes of buyers with four great lines of profit-making cars ranging from \$795 to \$2250.

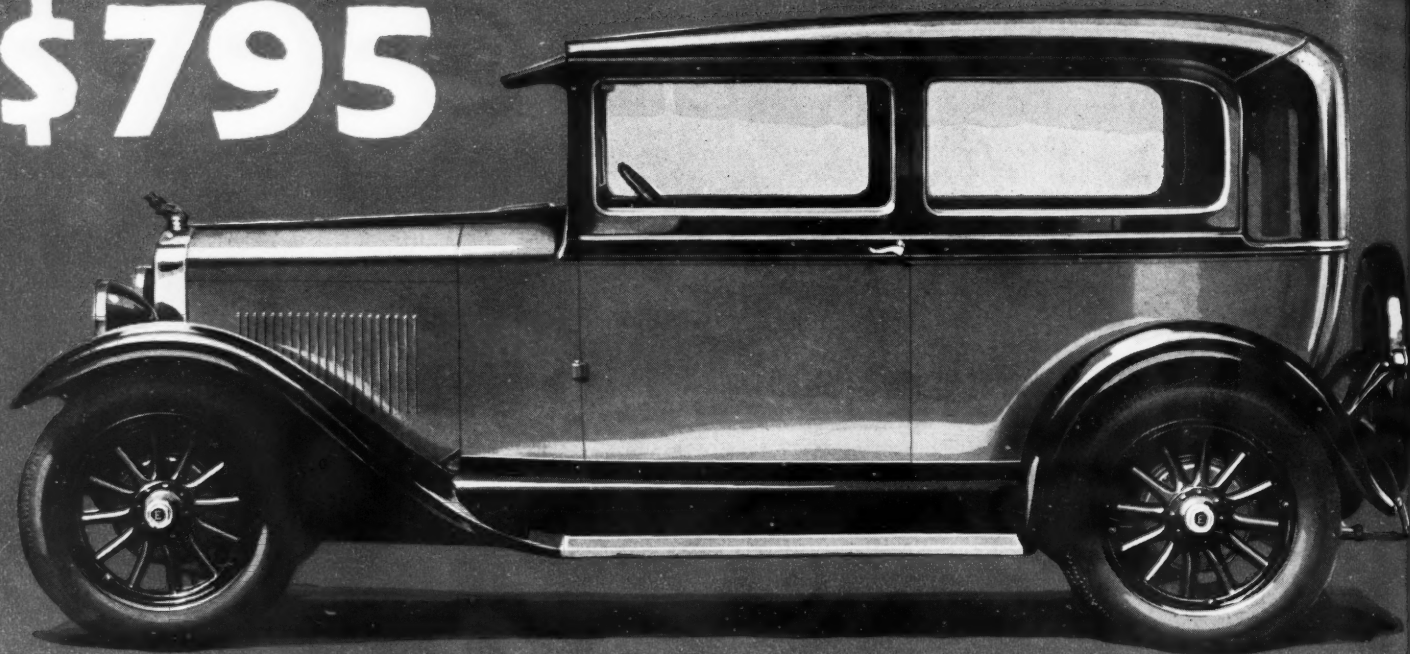
*See the great Studebaker-Erskine
line on the next page!*

New Contract

for towns and villages

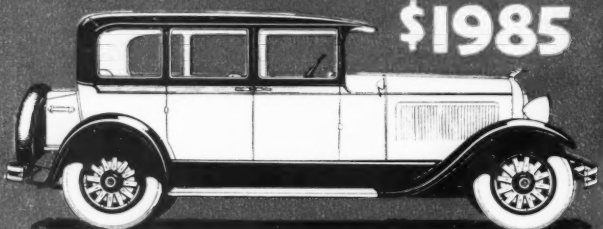
FOR small communities we offer a new and unusual contract. Hardly any capital is required. No shop need be operated. No used cars need be handled. No commitments need be made to purchase any particular number of cars. In small towns you can confine your efforts—if you wish—to the opening wedge of the line—the new American Edition of the Erskine Six at \$795, f.o.b. factory. If you maintain an Erskine demonstrator, you are entitled to sell all other Studebaker passenger cars, and Studebaker's comprehensive line of commercial cars as well.

\$795



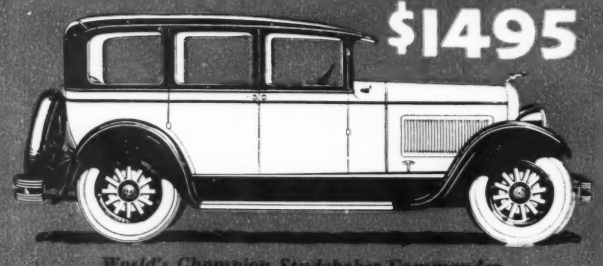
New American Edition of the Erskine Six — The Club Sedan

Fill every motor car need with one of these Studebaker-Erskine fine cars!



\$1985

The New Studebaker President Eight



\$1495

World's Champion Studebaker Commander



\$1195

The New Studebaker Dictator

THE STUDEBAKER CORPORATION OF AMERICA
Department 51, SOUTH BEND, INDIANA

Please send me full information on the Studebaker-Erskine franchise.

Name _____

Street Address _____

City and State _____

My present business (if selling cars now, state make) _____

THIS new Erskine Six is without doubt the aristocrat of the low-price field. A bigger car—roomier—more powerful—more brilliant in performance. It has proven that it will out-perform any car priced under \$1,000. On October 17th at the Atlantic City Speedway a stock Erskine Club Sedan went 1298.484 miles in 24 hours of continuous travel, setting a record that has never been equaled by any stock car priced below \$1,000.

Typical of the advanced engineering this car possesses, is the fact that it may be driven 40 miles per hour the day it is delivered. Careful precision workmanship and the Studebaker practice of running in every Erskine motor on the dynamometer make this possible.

Spacious, comfortable interior—rear seat 4 feet wide—doors nearly a yard wide—ample leg and head room. Safe to drive—Amplified-Action, 4-wheel brakes that multiply pedal pressure $3\frac{1}{2}$ times—low center of gravity giving marked roadability. Shock absorbers, standard equipment. At its new low price, the new American edition of the Erskine Six offers peak value in six-cylinder cars—\$795 to \$965, f.o.b. factory.

The New President Straight Eight

An outstanding achievement of automotive engineering—100-horse power engine—80-miles-an-hour—131-inch wheel base, yet easy for a woman to drive—easy to steer—easy to stop—remarkable roadability even at high speeds. Luxuriously appointed and finished throughout—leading the fine car field in beauty as well as in value at its unusually low prices—\$1985 to \$2250, f.o.b. factory.

Studebaker's Commander

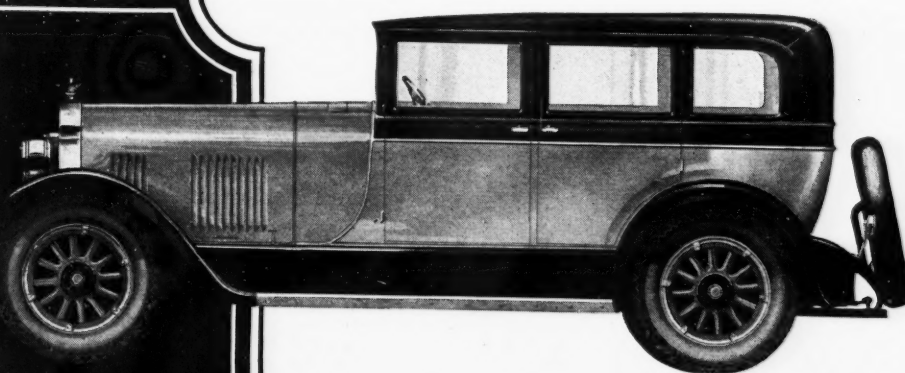
Holder of every official endurance and speed record for fully equipped stock cars, regardless of power or price. Body lines, equipment and appointments befitting its World's Champion performance. A beautiful, luxurious car judged by the highest standards. Champion in value at \$1495 to \$1745, f.o.b. factory.

Studebaker's Dictator

A stock model of The Dictator sedan recently traveled 1483 miles at better than mile-a-minute speed for 24 consecutive hours. No stock car under \$1400 has ever equaled this record, which was made under the supervision of the A.A.A. Designed and finished in custom taste and luxury—a super-value at \$1195 to \$1345, f.o.b. factory.

 **Mail This Coupon — Today!**

*This
ELCAR
at this
price
means your
greatest
opportunity
to make more
Sales and
earn more
money*



\$1395

Freight, Tax and Special Equipment Extra

In justice to yourself, Mr. Dealer, get the facts about this new ELCAR 8-78 at \$1395. Know the money-making opportunity it opens to you. Know the advantage you'll enjoy in offering this big Eight of style and quality at a price which makes it the year's value sensation.

Travel Air ELCAR 8-78

WITH THE *Shock-less Chassis*

THE 8-78 SERIES INCLUDES:

- 5-Passenger Sedan
- 4-Passenger Coupe
- 5-Passenger Touring
- 4-Passenger Roadster

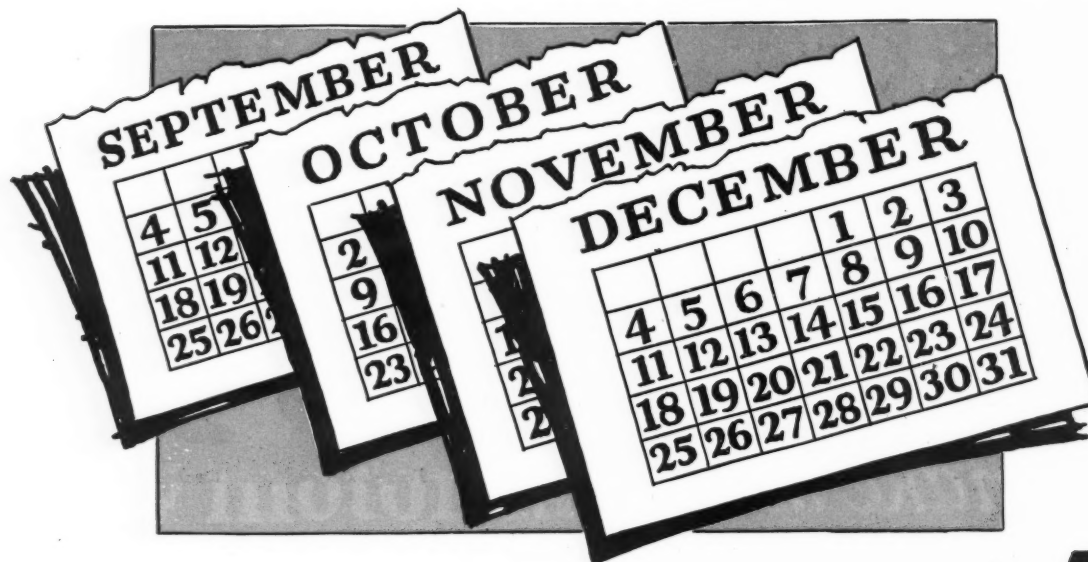
123-in. Wheel base.

20 models in the 1928 ELCAR line. Eights and Sixes. Prices \$1295 up, f.o.b. Elkhart, Ind.



Sturdy strength and luxurious roominess. A body of beauty with smart grace of line. A nimble motor of unwavering power. The famous *Shock-less Chassis*, which has given new meaning to riding ease and comfort. Mechanical excellence and performing ability unmatched by any car of comparable price.

Act now. Learn about the ELCAR proposition. Generous discounts. Good selling co-operation. Choice territories open. Write or wire today.



We Can Do It Again!


The manufacturer of a well known high priced car came to us with a problem.

He wanted to bring an entirely new line of models onto the market. The New York Automobile Show was to be the stage for the première.


But, he must not disturb his existing distributor organization or otherwise interfere with production and sale of current models.

We were permitted to take the problem unto ourselves, with the result that from September 1 to January 1, and before the New York Automobile Show opened, the manufacturer had doubled his


distribution facilities and the total proposed output for the year was 100% absorbed by the larger and better dealer organization—before a line of consumer advertising appeared in magazines or newspapers.



Business papers—with a high character of reader interest and dealer confidence, and the other facilities of a publishing organization composed of men who are automotive merchandising specialists—did this outstanding job for this car manufacturer.




There are many other instances where the Chilton Class Journal organization has performed almost unbelievable service for automotive manufacturers who were faced with substantial merchandising problems.



Come to Automotive Headquarters

We know the industry. We know the trade. We know dealers—and how to interest them in your product.



CHILTON CLASS JOURNAL COMPANY

Publishers of Automotive Business Papers

Chestnut and 56th Sts., Philadelphia

AUTOMOBILE TRADE JOURNAL

MOTOR AGE

AUTOMOTIVE INDUSTRIES

AUTOMOTIVE INDUSTRIAL RED BOOK

MOTOR WORLD WHOLESALE

CHILTON CATALOG & DIRECTORY

COMMERCIAL CAR JOURNAL

OPERATION & MAINTENANCE



*The Reliable Traffic Signal
for all automotive vehicles*

Easily installed on any car, of simple design and foolproof in operation. "Contax" clearly indicates when a right- or left-hand turn is about to be made, and is plainly visible from a distance of 350 ft., day or night. On exhibition at the National Auto Shows in New York, space C-24, and in Chicago, space 139.

For Sale by

CARL ZEISS, INC.
485 Fifth Avenue
New York



STAY-ON TIRE CHAIN ADJUSTER
Valve Brake and Clutch Spring

CUYAHOGA SPECIALTY COMPANY
10252 BERE RD. CLEVELAND, O.



SWAP a postage stamp for thousands of dollars worth of real facts on Car Washing. Send for your free copy of the hand book.

MANLEY MFG. CO.
FREE York, Pa., U. S. A.

VITALIC

Fan Belts, Radiator Hose, Air Hose, Universal Joint Discs

"Tougher than Elephant Hide"
Sold through the Jobber Only.

Continental Rubber Works Erie, Pa.

Do you know about
HOUDAILLE
Hydraulic Double Acting
SHOCK ABSORBERS

Write
Houde Engineering Corp.
539 E. Delavan Ave. Buffalo, N. Y.

clean
with

Oily floors invite fire!

REMOVE this dangerous hazard by washing greasy, oil-soaked floors with Oakite—the easiest, most economical way to get oily floors clean and keep them so. Booklet free on request tells how.

Oakite is manufactured only by

OAKITE PRODUCTS, INC.
18E Thames Street New York, N. Y.

OAKITE
Industrial Cleaning Materials and Methods

FOLLETT'S NEW MODEL TIME STAMP

accounts for every labor minute



Learn the interesting details from our descriptive data.

Prints the year, month, day, hour, minute, A.M. or P.M. at the exact moment the plunger is pressed—like this, for example:

NOV 19 1920 4 31 PM

Tells when a job is started—and when it is finished. There can be no dispute over the time charge.

Absolutely automatic — except for winding. Every machine guaranteed.

Follett Time Recording Co., 217 High Street, Newark, N.J.
"Established Since 1904"

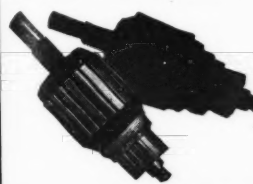
See the new Bosch
Type "Y" Shock Absorber
for Light Cars

Complete sets with all fitters packed in same carton for Chevrolet, Dodge, Essex, Pontiac, Star and Whippet—90 days free trial guarantee. Set of four \$22.00.

Bosch Universal Coil | Bosch Traffic Tuned | Bosch FI-600 Ignition
Bosch Spark Plug | Horn (Electric) | for Model "T" Fords
Bosch Double Vision Windshield Wiper (Electric)
Bosch Magneto Ignition and Governor for Fordsons

AMERICAN BOSCH MAGNETO CORP.
Springfield Massachusetts
Branches: New York Chicago Detroit San Francisco

There's always
something new just
at hand for the
regular reader of
MOTOR AGE



FREDERICKS Rewinds

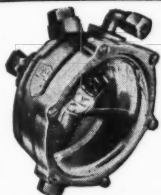
New low prices: Rewinding or exchanging any two unit type of automobile generator or starter armature, \$2.50. Any type of Ford armature \$1.50. Special prices on Ford armatures in quantities.

H. M. FREDERICKS CO., Look Haven, Pa.

STANDITALL AUTO RADIATOR

Damageproof against repeated boilings and freezings. Built to last the full life of the car. Complete radiators for Fords, Chevrolets, Dodges and Maxwells. Cores for all cars and TRUCKS. If not at your jobber's, write direct.

J. C. Black Mfg. Co., Inc., Oil City, Pa.



PROTEX-A-MOTOR GASOLINE PURIFIER JUNIOR MODEL

Fits Ford, Dodge, Chevrolet, Chrysler, Erskine, Essex, Flint, Falcon-Knight, Maxwell, Oakland, Oldsmobile, Overland, Pontiac, Star, Whippet. Standard Model, \$5.00. PROTEX-A-MOTOR MFG. CO., Pittston Pa.

\$3.50

KELLOGG COMPRESSORS



Pump More Air Per
Horsepower

KELLOGG MFG. CO.

200 Humboldt Street Rochester, N. Y.

PUT UP YOUR HUTTO SIGN

The current Saturday Evening Post advertisement appeared January 7th, full page—in colors. To get the sign: Tear out this advertisement and send us your name and address together with the name of the jobber from whom you bought your Hutto.

If you haven't a Hutto Grinder—write for copy of 50 page book: "Profit from the Daily Grind."

HUTTO ENGINEERING CO., INC.

519 Lyncaste Ave.

Detroit, Mich.

JAYENEL AUTOMOBILE Steam Heater

One model fits all makes and types of cars and gives moist, healthy heat without any odor instantly.



JUDD & LELAND MFG. CO., Clifton Springs, N. Y.



Valve Face Grinding Machine

—with the NEW Sioux Roller Chucking System. Amazing accuracy and speed. Investigate before you buy.

Your Jobber Sells It

ALBERTSON & CO.
SIOUX CITY, IA.

TIMKEN Tapered ROLLER BEARINGS

Free
with
your copy

The Book
'AIR PROFITS'

Shows how to get more work out of an air compressor. How to use compressed air for many pay jobs.

BRUNNER MFG. CO.
UTICA NEW YORK

BRUNNER
AIR COMPRESSORS

Weidenhoff Shop Equipment for Battery and Electrical Service

4358 Roosevelt Road Chicago, Illinois

Mohawk Electric One Dial Radio



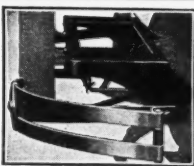
**Stops Pump-shaft Leaks and
Saves the Winter Solution**

CONNEAUT PLASTIC METALLIC PACKING will keep the water-pump tight no matter what winter solution is used.

All sizes in one can. Stocked with your Jobber

1 lb. can \$1.75 per lb.
5 lb. can \$1.60 per lb.

THE CONNEAUT PACKING CO.
Conneaut, Ohio



"Bellevue"
Side-Plate
Trunk
Carriers

Most efficient
for all Cars

The Bellevue Mfg. Co.



Bellevue, Ohio



Every year more motorists
are saying...

Goodbye, buggy wheels **BUDD**
WHEEL COMPANY
Philadelphia • Detroit

THE CLASSIFIED DEPARTMENT
WILL HELP YOU

CLASSIFIED ADVERTISEMENT

Wanted—Racing Head for Ford Motor, overhead cam preferred. DON VOGEL, Robbinsdale, Minn.

CLASSIFIED ADVERTISING RATES

Ten cents a word is the rate for all undisplayed advertisements set solid, regular want ad style; minimum charge \$1 an insertion. All capitals, 12c a word; all capitals, leaded, 15c a word. Payable in advance.

Did You Enjoy This Copy?

YOU can get one like it every week for only \$3.00 a year—an average cost of a little less than six cents each.

Each and every man in the trade needs MOTOR AGE—needs the

positive help it offers in the solution of daily problems and the valuable ideas it gathers for its readers.

Your competitor reads MOTOR AGE, and you need to read it also if you want to keep up with the leaders of the automotive field.

Here's How MOTOR AGE Will Help You

SERVICING —MOTOR AGE will show you how to make flat rates—How to sell Service—How to make customers permanent—How to organize a workshop—How to handle knotty problems—How to select Machinery—How to test electrical systems—How to make quick repairs—How to route shop work.

HIRING —How to get the right men—How to train them—How to pay them—How to get their co-operation—How to keep them enthusiastic.

BUYING —How to select an accessory stock—How to judge merchandise—How to get a fast turnover—How to avoid dead items.

SELLING —How other men do it—How to keep down overhead—How to advertise—How to make Salesmen produce—How to create a market—How to find prospects—How to make every sale pay—How to avoid losses—How to write letters that build business.

AND THEN . . .

Whatever else you need to know to make your business run smoothly MOTOR AGE will tell you if you only ask—All personal inquiries receive personal attention from our editors. Every subscriber is encouraged to come to us with his problems, whether mechanical, legal, architectural or financial. Try us, and we will give you "Service you will like."

THE COUPON is here for your convenience. If you are already a subscriber, pass it on to some friend in the trade who is not. When he starts getting MOTOR AGE he'll appreciate the favor.

MOTOR AGE

Chestnut and 56th Streets
Philadelphia, Pa.

Gentlemen: Enclosed find \$3.00 to pay for a year's subscription to MOTOR AGE, including all special issues published during the life of my subscription.

Name

Street and Number

City..... State.....

Firm Name

NOTE: If you are already subscribing to MOTOR AGE, please hand this coupon to a dealer who is not. He'll become a fairer competitor from reading MOTOR AGE.

IMPORTANT—MOTOR AGE is published exclusively for the trade. Subscriptions are accepted only from those actively engaged in our field—so please don't forget to include your business card or letter head with this order.

Please place an (X) beside your business or vocation:

Motor Car Dealer	<input type="checkbox"/>
Truck Dealer	<input type="checkbox"/>
Tractor Dealer	<input type="checkbox"/>
Garage Business	<input type="checkbox"/>
Repair Business	<input type="checkbox"/>
Retailing Accessories	<input type="checkbox"/>
Service Station	<input type="checkbox"/>
Jobber (Wholesale)	<input type="checkbox"/>
Manager	<input type="checkbox"/>
Foreman	<input type="checkbox"/>
Salesman	<input type="checkbox"/>
.....	

Newsy, breezy,
timely, and reliable edited
by live men for
the forward-looking
merchandisers of
automotive products
. a weekly business
paper for live
dealers

Good news for motor car dealers

The automobile business enters another period of transition. This means prosperity for motor car dealers who have the vision to see the outcome of this great development and the initiative to take advantage of the opportunity now offered.

This new change in the automobile industry means the replacement of many thousands of the ordinary type cars, by cars powered with the fully developed six-cylinder Knight sleeve-valve engine.

The famous Knight sleeve-valve engine, which is recognized by automotive engineers as the superior type of power plant, will be in great demand by the motoring public this year and for years to come.

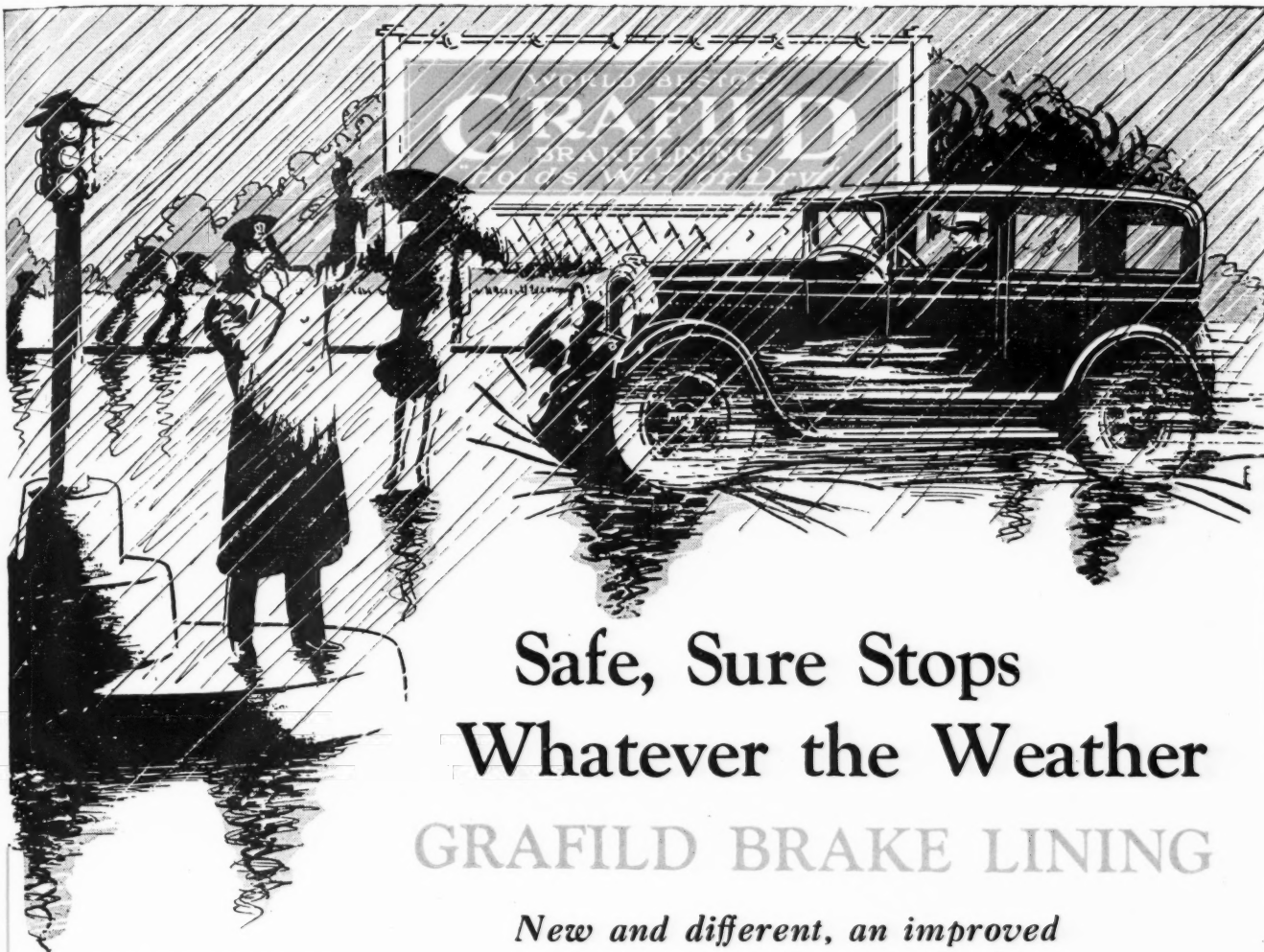
Falcon-Knight dealers are now enjoying a profitable business in this new market. The Falcon-Knight Six is the lowest priced Knight-engined car.

FALCON MOTORS CORPORATION, • DETROIT



Complete new body designs of unusual beauty for 1928 series Falcon-Knight cars are receiving wide public endorsement.

Headquarters at Chicago, Congress Hotel



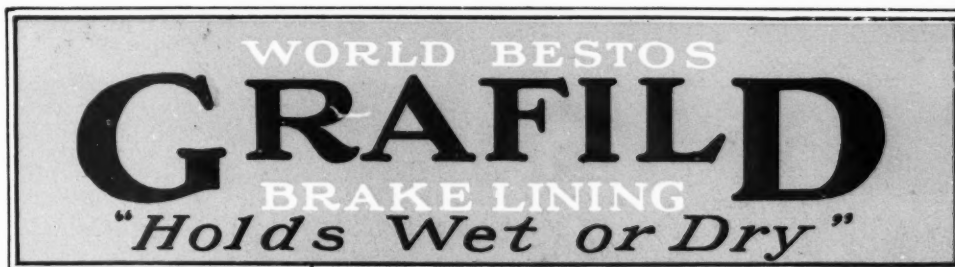
Safe, Sure Stops
 Whatever the Weather
GRAFILD BRAKE LINING

*New and different, an improved
 process — smooth, sure braking*

**Even in Sleet and Slush
 It Holds, Wet or Dry**

BRAKE REPAIRMEN

Grafile Brake Lining and "Service Testing" mean
 more jobs and more profits. Send for details on
 Service Testing. Learn how \$100.00 makes \$1000.00.



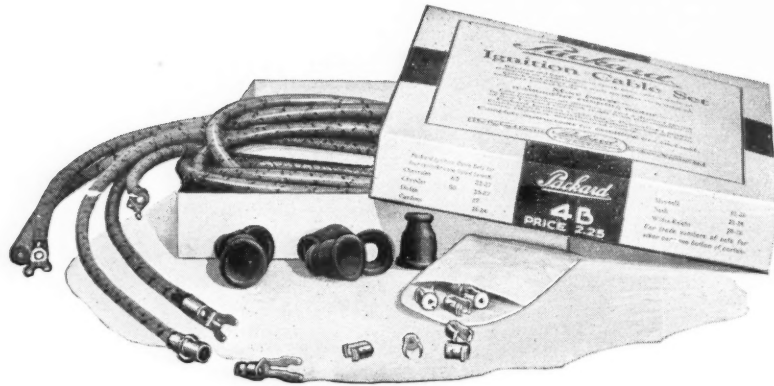
Send in this coupon for complete information

Name Address

WORLD BESTOS CORPORATION 52 COURTLAND ST., PATERSON, N. J.

CAR OWNER ADVERTISING

on Packard Ignition Cable Sets



An Unusual Profit Opportunity

For the Entire Trade

POWERFUL advertising leading off next month with full pages and color advertisements in The Saturday Evening Post will tell all car owners how to improve their motor performance with a Packard Ignition Cable Set.

Practically every car with mileage of 10,000 or more needs new high tension cable. Marked improvement in motor efficiency will be felt by the car owner. The saving in gasoline alone will usually pay for the installation in the first 2,000 miles.

Sets (see illustration) come complete in attractive cartons. An assortment of eight sets will take care of any car. Your investment is less than \$25.00, to open up a complete new department—and the profits are big.

Send coupon today for full information giving name of wholesaler. Put a set on your own car and *feel* the difference.

Send the coupon

Packard
REG. U.S. PAT. OFF.
TRADE MARK

IGNITION CABLE SETS

Nationally Advertised

THE PACKARD ELECTRIC CO., Warren, Ohio
ESTABLISHED IN 1890



THE
PACKARD
ELECTRIC
COMPANY
Warren, Ohio

Send me:
{Check what you want}

☐ Full information on Packard Ignition Cable Sets.

☐ Ten assorted sets to fit all cars through my jobber as follows

Jobber's Name and Address.....

My Name.....
(For more space write in margin)